Canadian Transport Commission
Commission canadienne des transports

Final Recommendations of the Inquiry into the Transportation Requirements of Yukon

Inquiry Officers

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June 1, 1984

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FINAL RECOMMENDATIONS OF THE INQUIRY INTO THE TRANSPORTATION REQUIREMENTS OF YUKON

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CANADIAN TRANSPORT COMMISSION
June 1, 1984

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Commission canadienne des transports
Canadian Transport Commission

FOREWORD

The Canadian Transport Commission (CTC) agreed to conduct an independent inquiry into the transportation requirements of Yukon on June 17, 1983. This was a result of a request by the Government of Yukon for a definitive evaluation of territorial surface transportation in the short, medium and long term to assist Yukon in making economic development decisions. We were appointed by the CTC to conduct the inquiry under the provisions of Section 22 of the National Transportation Act.

Initial terms of reference were set up in conjunction with Yukon with a proposed completion date of June 1984. Yukon subsequently asked that certain major issues be dealt with as a matter of urgency. These issues centred mainly on future transportation of Cyprus Anvil Mining Corporation Ltd. traffic.

On December 15, 1983 a preliminary report on our evaluation of the most urgent issues was published and distributed to the public by the Government of Yukon. At that time, we requested that any comment, rebuttal or new information pertaining to the preliminary report be submitted prior to February 15, 1984.

This, our final report to Yukon, presents our re-evaluation of the major issues examined in our preliminary report and considers all of the information submitted to us since the release of our preliminary report. It summarizes our findings and presents our final recommendations to Yukon with respect to the future transportation requirements of Yukon.

dated this 1st day of June, 1984

Ottawa, Canada.

(signed)
Edward Weinberg

(signed)
Gary. M. McLaughlin

(signed)
Neil Thurston

Canada

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1.0 INTRODUCTION

1.1 GENERAL

On June 17, 1983, the Canadian Transport Commission (CTC) agreed to conduct an independent inquiry into the transportation requirements of Yukon. This was a result of a request by the Government of Yukon for a definitive evaluation of territorial surface transportation in the short, medium and long term, to assist Yukon in making economic development decisions. We were appointed by CTC to conduct the inquiry under the provisions of Section 22 of the National Transportation Act.

The initial deadline for the final inquiry report was June, 1984. However, Yukon subsequently requested that certain major issues be dealt with as a matter of urgency and, as a result, our terms of reference changed.

On December 15, 1983, a preliminary report on our evaluation of the most urgent issues was published and then distributed to the public by the Yukon Government. That report summarized our preliminary findings, and contained the information, analyses and opinions on which our conclusions were based. It was made public to permit all interested parties to review the opinions of others and our preliminary recommendations. We requested that any comment, rebuttal or new information pertaining to the preliminary report be submitted prior to February 15, 1984.

In the interim, we met with the major interested parties again, not only to explain the preliminary report, but also to respond to specific queries on the report's contents and to find common ground where there were serious differences. This, our final report to Yukon, is the summation of the results of that effort.

The information and opinions that have been submitted to us in this inquiry are of immense volume and diversity. Great time and effort have been expended by those parties who will be most affected by the decisions to be made by Government as a result of this inquiry, notably Cyprus Anvil Mining Corporation Limited (CAMC) and White Pass and Yukon Corporation Limited (WPY). We have seriously considered their input and have managed to "fill-in" many of the grey areas in our preliminary report, with the help of experts in specific areas. As a result, we have formulated very strong opinions of our own and it is upon these opinions that we base this report.

Unfortunately, we were unable to agree with all parties on every issue. Neither were we able to find recommendations that we know would completely appease the expectations of each of the major interests. We also realize that there still remains a body of opinion that will differ with our views. Nevertheless, we feel that we have been fair and that everyone has been given ample opportunity to present their positions and views.

We respectfully submit this final report to Yukon for its consideration and for the consideration of the Federal Government. We hope that

the results of this inquiry will assist both Yukon and the Federal Government in making the necessary and difficult decisions expeditiously.

1.2 EARLY FINDINGS

Early in the inquiry, it became obvious that the major transportation problem facing Yukon arises from the hoped for recommencement of production at the CAMC mine at Faro and the questionable future of the White Pass and Yukon Railway. That problem has many dimensions, and impinges on other perceived problems related to tourism, transport of consumer goods and the economic well-being of Yukon in general. Its resolution will require Yukon and the Federal Government to make very hard decisions if a lasting solution is to be found. Easier "band-aid" solutions are unacceptable to the public and industry.

In one form or another, this issue has been "studied" several times in the recent past. Those studies have revealed one basic truth with respect to Yukon. Until the economy of Yukon expands, diversifies and thereby becomes more stable, it is not possible to predict future circumstances with any degree of certainty or accuracy. There are simply too many external factors that are beyond Yukon's direct control. Additionally, corporate strategies can alter quickly with a change in company ownership.

The search for the "best" solution, or in this case the best transportation option for CAMC traffic, does not lend itself to an approach which relies solely on theoretical speculation. Quantitative analyses employed by traditional economists and planners are inadequate -- easy though it may be to make the pretense that such tools alone will show the way. Decisions must rely not only on quantitative predictions of costs and benefits but more importantly, on non-quantitative risk factors associated with the realities of business, Yukon and Alaska. It is hoped that this inquiry will lead to solutions that will avoid the need for yet more study of this problem. For this reason, we have concentrated on the major medium term problem for which evaluations can be made with reasonable assurance of factual accuracy.

Nevertheless, we fervently sought to isolate facts and analyses which could lead to recommendations on long term transportation requirements in Yukon as well. We found, however, that to deal with matters beyond a five year horizon would be little more than idle crystal ball gazing. Indeed, long term transportation planning cannot be sensibly addressed until the medium term problem related to the choice of the transportation system to serve so dominant a figure as CAMC has been made. However, we were able to temper our analyses in qualitative terms, with regard to possible long term events. To those who expected more, we apologize.

1.3 SOURCE OF PROBLEM

Dome Petroleum (Dome) acquired CAMC by virtue of acquiring Hudson Bay Oil and Gas Ltd. (HBOG) in 1982. The acquisition of CAMC was not Dome's principal objective, but was rather a residual result of the HBOG acquisition.

CAMC had operated its open pit lead-zinc-silver mine and mill near Faro since 1970. It was one of the largest lead-zinc mines in the world, representing about 3% of the world production and 13-15% of Canadian lead-zinc production. As well, CAMC was both the cornerstone of the Yukon mining sector and the Yukon economy as a whole. In 1981, for instance, Informetrica reports that direct and indirect salaries and wages arising from CAMC operations totalled about $60 million.

In June 1982, CAMC mining operations were closed down by Dome. The net cash flow in 1982 was a loss of $69.4 million, which followed a loss of $94.5 million in 1981. Production cost per tonne was roughly twice the unit cost of four years earlier. Between 1970 and the closure of the mine, CAMC received roughly $1.6 billion in gross revenues and ended up with a cumulative net cash flow loss of about $200 million and an unrecovered investment of about $167 million according to CAMC. Prior to shut-down, it was determined by CAMC that reductions in the cost of management, electricity, transportation and labour were necessary. The cost of land transportation to CAMC in 1982 and 1981 was $17.6 million and $26.6 million respectively. Considering CAMC's cash flow losses, had land transportation been provided free of charge for those two years, Dome's decision to close the mine would likely have been the same. This is not to say that transportation is insignificant to CAMC, but rather, at the time of closure, realistic reductions in transportation would not have improved the economic viability of the mine significantly -- all things considered.

When the CAMC mine closed down, a wave of economic depression crossed Yukon, ending at the sea in Skagway, Alaska. Apart from the direct loss of jobs at Faro, the WPY truck-rail freight system from Faro to Skagway had to be suspended, along with its well-known summer tourist train operations. That suspension meant further unemployment and the diversion of other freight to allegedly more expensive long-haul trucking routes from Vancouver and Edmonton.

WPY, a wholly-owned subsidiary of Federal Industries Ltd. of Winnipeg (Federal), serviced CAMC traffic since it first began production. Concentrates were trucked by WPY from Faro to Whitehorse for furtherance by the WPY railway to Skagway, Alaska where the concentrates were stored in a WPY terminal and shipped to world markets. WPY also provided a fully integrated ocean, rail, highway transportation system, linking Vancouver and the Yukon via Skagway. In the last full year of operation (1981), CAMC concentrates represented 67.7% of the total WPY railway tonnage and 46.9% of total railway revenues. As well, CAMC backhaul traffic represented 20.3% of the WPY railway's northbound tonnage and 23% of the northbound revenues. The shut-down of CAMC was therefore a serious blow to the viability of the WPY railway and to its employees in Yukon and in Skagway, Alaska.

In the summer of 1982, not only did CAMC close down but so did other Yukon mines, including the United Keno Hill mine at Elsa, the Whitehorse Copper mine at Whitehorse, the Canada Tungsten mine and the Brinco mine at Cassiar, B.C. -- all representing significant tonnage and revenue to WPY. These closures resulted in there being insufficient freight volumes for WPY to continue operation of its railway.

Notwithstanding this, WPY continued operation of the railway for the summer of 1982. Between June and October 1982, WPY carried gasoline, a reduced level of freight and approximately 55,000 passengers. In this period, the railway experienced an estimated loss in excess of $4 million according to WPY. The year earlier, the WPY Rail Division suffered a $3 million net income loss. WPY Rail Division, like CAMC, was in serious financial difficulty.

On October 8, 1982 for the first time since the railway was constructed at the turn of the century, save for stoppages due to labour disruption and line outages, operations were suspended. The closure of the railway had a dramatic effect on Yukoners, at a time when they were reeling from the economic effects of the collapse of the Yukon mining sector. Former Whitehorse Mayor, Flo Whyard, described the closure of the railway as "psychologically shocking" to most Yukoners. To others, it meant a break in the last continuous link to the Klondike Gold Rush. To the people of Skagway, it meant that the major year-round source of employment was lost.

The suspension of the WPY Railway operations had other implications. The seasonal tourist train, classified by many as a "world class attraction", was suspended. This resulted in the fear that the $50 million per year Yukon tourist industry would sorely suffer. The town of Skagway lost its main year-round economic base and the closure of the tourist train operation lead to wondering whether the cruise ships, critical to Skagway's seasonal tourist activity, would continue to stop there. As well, all north bound rail freight that was destined to Yukon consumers had to be diverted to long-haul trucking from Vancouver and Edmonton at allegedly higher cost.

1.4 REMEDIAL ACTION TAKEN

In April 1983, the Government of Canada, represented by the Honourable John Munro, Minister of Indian and Northern Affairs, came to an arrangement with CAMC which permitted the mine to reopen in June 1983. This Federal aid involved a $19.6 million Federal Government loan to CAMC, $4 million in aid under the Unemployment Insurance Act and the NEED program, and $1 million from the Yukon Government. As part of this arrangement, CAMC agreed to invest $25 million of its own. This agreement provided for the employment of about 210 mine workers over a two year period to proceed with the stripping of overburden. Dome could not justify such activity on its own without Federal Government assistance. As a result, CAMC would be able to mine ore at a lower cost than would otherwise be attainable without the Federal aid and/or to increase the value of its property, if Dome decided to sell CAMC. In addition, the mine's Steelworkers Union signed a contract limiting wage increases and adopting other measures, expected to boost productivity by an estimated twenty percent, according to CAMC. These events have served to reduce at least some of the problems that caused Dome to close down CAMC operations in 1982. It also provided sorely needed jobs to the citizens of Faro.

The size of CAMC management has also been decreased by CAMC and plans have been made to improve the efficiency of the mine and the mill. Efforts to reduce power and transportation costs are still being pursued. CAMC pointed out early in this inquiry, that "... full operations will resume

when metal prices recover and when power, transportation and royalty cost problems are resolved."

CAMC still suffers from sizeable debt. It pointed out that "CAMC is still some $190 million 'in the red' even though the operation at Faro was established over 15 years ago". CAMC more recently reported to us that it has $130,000,000 in bank debt and $8,000,000 in Government debt.

Since its acquisition and closure of CAMC, Dome has attempted to find viable markets for CAMC ore and potential buyers for the property, as yet, to no avail. We are led to believe Dome would prefer to sell CAMC rather than operate the mine itself.

In the interim, WPY has laid-off all but a skeleton caretaker staff so as to minimize the costs of waiting for CAMC to reopen, so that it may recommence its own operations. In the first six months of 1983, WPY lost $1.2 million. WPY Rail Division has incurred losses of about $10 million in the past four years. With recent cut-backs, we estimate future "bare-bones" railway "shut-down cost" to WPY, to be less than $1 million per year. WPY, and its parent Federal, made it very clear it could not continue to financially "hemmorage" in this way.

WPY management, like CAMC, have sought to reduce costs that are within their control. Both WPY and CAMC are to be commended in this regard. WPY is presently discussing needed concessions with the unions that represent its employees and we have been informed by associated parties that the unions are willing to make substantial but reasonable concessions -- particularly to work rules. Considering that labour costs on the WPY have represented in excess of 55% of total expense in the past, these negotiations could result in significant railway cost reductions.

1.5 CURRENT SITUATION

Notwithstanding the remedial action taken by Dome, CAMC, the Yukon and Federal Governments and WPY, and even in light of the strengthening world metal prices, the CAMC mill still remains closed. We are unaware of any serious potential buyer of the mine from Dome. Neither are we aware of any agreements in principle to purchase potential mine production.

CAMC points out that "... the cost to put the mill back into proper operating order and complete work which was suspended in 1982, is $8,000,000 and will take 7-9 months to accomplish". "The customers for lead and zinc concentrate will want assurances and satisfaction in their own minds that the mill is world competitive and will operate on a continuous basis. If CAMC relies solely on higher metal prices, CAMC could start up the mill in 1984 or 1985 but it could just as easily shut down with a down turn in metal prices if the operation continues to be burdened with an inefficent transportation system."

CAMC also states that "CAMC must have the fundamental economic problems associated with the Faro mine solved this time so that it has the best possible chance to operate through future economic recessions and varying market conditions. The risk to Cyprus Anvil, suppliers, and Yukoners

who count on Cyprus Anvil, is simply too great to start-up full operations unless there is a high degree of confidence that there will be continuous operations over a long period of time."

Certainly the fundamental debt borne by CAMC impedes the objective of minimized future business risk to Dome. Equally certain, any cost reduction to CAMC in any or all of transportation, royalties, energy, taxes, and corporate frills would also assist it in achieving the longer term economic viability of CAMC.

Transportation services and costs are perceived by Dome and CAMC to be a very important element in their decision whether to start up the mill or to sell CAMC. We believe transportation costs alone were not the dominant factor in the decision to close the mill. We also believe transportation costs and services are by no means the dominant factor in Dome's decision to keep the mine closed, to-date. However, we realize at this point in time, considering the expenses over which CAMC has little or no control, any cost saving, no matter how small, will be beneficial to either starting the mill or selling the mine.

Dome and CAMC have repeatedly claimed that transportation cost reduction is critical to the reopening of the mine. In this respect, the choice of transportation options has been clearly stated by CAMC to be as follows, in order of preference.

1) an all-truck transportation system from Faro to Skagway, Alaska, via the South Klondike Highway;

2) an all-truck transportation system from Faro to Haines, Alaska, via the Haines Highway; and least preferred

3) the traditional WPY truck-rail system from Faro to Skagway.

From a physical point of view, and if CAMC decided to ship concentrate in the very near future, it could do so with the least amount of difficulty via its least preferred transportation option. The traditional WPY truck/rail route is a tried system, could start-up with minimal capital investment of about $250,000, according to WPY, and WPY is willing to operate as long as its Rail Division breaks-even "with no down-side risk". This is not the case with CAMC's other preferred two options. The point is that CAMC is not now, nor has it ever been, physically restricted from marketing its products due to lack of transportation infrastructure.

Presently, the lack of an established concentrate terminal and shiploading facility at Haines physically restricts CAMC from employing it's second most preferred route. As well, the laws of Alaska, British Columbia and Yukon with respect to truck weight limitations presently restrict CAMC from employing the type of trucks and load factors which CAMC have assumed in their hypothetical determination of costs on this route. There is also a question of safety to the public, of unproven winter operations in a severe climate and of the technical possibility of continuous use of this road by the contemplated truck operation, without sizeable incremental road maintenance costs. As well, U.S. unions would likely picket the contemplated

operation if drivers did not receive area wide standard wages in Alaska. These considerations will be detailed later.

CAMC's most preferred truck route to Skagway is frought with difficulties as well. The laws of Alaska, British Columbia and Yukon restrict CAMC from operating at their contemplated truck loads. The road is not now open in the winter months. It was neither intended, nor constructed, for heavy outbound concentrate trucks, but rather for public use and for light inbound general freight trucking. Sizeable road reconstruction may be required to make the road safe for private vehicles to coexist with CAMC trucks. Incremental maintenance costs will be large. More importantly, CAMC did not elect recently to exercise its option to purchase the WPY terminal in Skagway, at well below replacement cost. Had CAMC done this, it would have eliminated the chance of WPY employing possible predatory pricing for the use of this critical "gateway" terminal facility. This was a puzzling decision considering CAMC's desire for long term low costs of transportation totally within its control. CAMC officials stated that they "...could not justify this capital expenditure", which led us to wonder if either CAMC, or Dome, were really committed to their most preferred route or, indeed, committed to reopening the mine themselves.

Suffice to say here that, in our minds, CAMC has viewed the all-truck routes and the costing thereof in a most unrealistic manner. In order to arrive at the costs from which it derived the expectation of massive savings, CAMC has made a myriad of assumptions which we feel will not materialize. Based on these assumptions, however, CAMC has estimated that annual savings from an all truck operation relative to the WPY truck-rail route would be "... at least $10,000,000 to $14,000,000 but could be up to $17,000,000", if CAMC was permitted by Yukon, B.C. and Alaska to use the South Klondike Highway at elevated truck weight restrictions and if Government pays for all road costs associated therewith. We prepared cost estimates for this route in our preliminary report which resulted in savings well below those claimed by CAMC. In some cases no savings could be determined. CAMC also claimed our report was negative and biased in this respect. Later, herein, we will present what we consider to be irrefutable evidence that the expected savings calculated by CAMC are simply not realistic.

These cost estimates and hypothetical expectations of savings were the subject of heated debate throughout the inquiry. Similarly, the assumptions made by CAMC in the derivation of these savings have been seriously questionned. The cost to Government (Federal, Yukon, Alaska) associated with opening the South Klondike Highway to year-round operations and making it safe for passage of private vehicles are of equal importance and are issues which have generated much controversy. Yukon and the Department of Indian and Northern Development have called for a detailed evaluation of CAMC's alleged savings and the associated costs and risks to the public purse. This we have done, and as will be seen later in this report, we cannot agree with CAMC's estimates of transportation savings. Too many realities have simply been assumed away or simply dismissed without reason. We do not believe we are either "negative" or "biased" in arriving at this conclusion. We strongly believe the future will bear us out.

More importantly, apart from our differences on expected transportation savings, we recognize, that there is a very real difference between hypothetical transportation cost estimates and comparisons, frought with a myriad of assumptions, and the actual transportation rates and related contracts which will be charged by competing carriers. CAMC, for instance, informed us in early March that it will go to tender for truck rates on its preferred routings, but that potential truckers would not quote rates until they had a chance to closely review the subject road routes this spring. We appreciate that no trucking firm would make a serious rate quotation without previously evaluating first-hand the potential physical, financial and legal risks of providing the required unprecedented service on an untried road. Similarly, we have satisfied ourselves through discussion with potential truckers that the degree to which the actual rate quotations will mirror the truck cost estimates discussed herein, will depend strongly on the contractual securities offered by the shipper -- CAMC. The originally contemplated strategy of CAMC to contract trucking on a year by year basis to spur competition among truckers is theoretically convenient but it is just not realistic, as CAMC must now understand.

WPY has stated that it would carry CAMC traffic by the WPY Railway on a "break-even" rate -- that is, a rate which ensures that WPY Rail Division receives a total revenue sufficient to pay all operating costs, including depreciation plus recovery of normal administration and finance expenses, as long as there is no "down-side risk". This rate concept, of course, would involve considerable negotiation to reach a contractual stage. As well, the truck rate from Faro to rail head, plus Skagway terminal charges, would be set on a commercial competitive basis, which are as yet unknown. In short, as with the all-trucking options, the WPY truck-rail system composite truck-rail-terminal rate may not necessarily relate exactly to cost estimates. The composite rate would no doubt be a commercially determined rate with allocated revenue to the Rail Division, such that the Rail Division would "break-even".

1.6 APPROACH

Senior CAMC officials have accused us and our preliminary report of being biased, viewing the road options in a negative manner and the WPY railway in a positive manner. Furthermore, CAMC expressed the following position.

"CAMC suggests that the historic problems in Canada's vast country, particularly in its frontier regions such as Yukon, were <u>not</u> solved by people stating why they could <u>not</u> do things but rather by the people taking a <u>positive</u> attitude, recognizing a problem exists, and putting their minds to determining in a <u>positive</u> fashion how these problems can be overcome. CAMC does not expect Alaska to be agreeable to opening the road (the South Klondike Highway) at this time when Yukoners are so divided in opinions and directions. It is up to Canadians to come up with a united approach and then approach Alaska in a positive fashion for a resolution of its concerns."

We agree fully with the view that the dilemma presented by CAMC should be approached in a <u>positive</u> fashion. We agree that a <u>negative</u> attitude will solve little. We agree, as has been demonstrated in our

preliminary report that people should get together to resolve their own problems without strong Government intervention. There is a need for Yukon interests to come up with a united approach. To accomplish that, however, requires a conciliatory attitude on the part of major Yukon interests -- including CAMC, Dome, and WPY. This, however, does not appear to have been the case in recent times.

We strove to be fair in preparing our preliminary report. All parties were given ample opportunity to express their views and to cross-examine those of others. We permitted our findings to be openly scrutinized. We had no preconceived ideas and we don't consider our approach biased, or negative. Nor do we believe that, just because our conclusions differ with those of an interested party, those conclusions should be viewed to be negative or biased. Indeed, many people conveyed to us full agreement with our preliminary conclusions. That, being as it may, we accept CAMC's suggestion in the context that we should be diligent in rendering a final report that leads to as irrevocable conclusions as are possible.

In summary, it is our opinion that "the problem" before us must be addressed by answering the following questions:

1. If and when CAMC recommences production, with either Dome or another party as owner, what are the most realistic estimates of transportation costs from/to Faro, to/from vessel at Skagway, and Haines, via the three routes and operations contemplated by CAMC?

2. Given the realities of the situation, to what degree will those cost estimates reflect actual commercial transportation rates and charges?

3. What are the costs to the public purse required to facilitate CAMC's transportation preferences and what are the benefits derived therefrom?

2.0 TRANSPORTATION COST ESTIMATION

"If and when CAMC recommences production, with either Dome or another party as owner, what are the most realistic estimates of transportation costs from/to Faro to/from vessel at Skagway and Haines, via the three routes and operations contemplated by CAMC?"

2.1 GENERAL

In order to determine the merits of each of the three most promising transportation options for CAMC traffic, the cost of transportation on each route must be estimated. This, of necessity, requires a number of assumptions to be made. As costs of operations on each route are to be compared, the bases of the cost estimates must be premised on identical assumptions -- as far as possible. Although not all of these assumptions may materialize, the cost estimates will be of equivalent accuracy.

Certain costing assumptions are straight forward and have resulted in no strong objections from anyone. For instance, an average CAMC concentrate tonnage of 474,000 tonnes per year for the period of 1985 to 1990 appears to be generally well accepted. Even with such figures we realize that there can be variations from year to year. However, without any firm contracts, or the ability to forecast any labour disruptions of one form or another, it would be presumptive on our part to grant more detail to such traffic forecasts.

Certain other costing assumptions, although not so straight forward have not been questioned. For example, many of the unit trucking costs prepared by Trimac for CAMC have withstood scrutiny.

CAMC has complained that they have not been afforded the ability to review the detailed cost estimates for the WPY Rail Division. These were provided in confidence by WPY and to the best of our ability we have preserved that confidence. As well, on two separate occasions, we have explained to CAMC the correct legal procedure to be followed for CAMC to obtain access to such costs. To-date, CAMC has chosen not to pursue that avenue. However, we are satisfied that WPY has prepared the Rail Division costs to the best of its ability.

We would point out, however, that by telex dated April 2, 1984, CAMC has maintained that the very quotations it will receive as a result of its tender for trucking rates to Skagway and Haines would not be disclosed to us, as they are considered "confidential" by CAMC. As a consequence, we believe CAMC have not been disadvantaged with respect to cost disclosure any more than we have been with respect to disclosure of CAMC's trucking rate quotation.

As well, there are a full range of assumptions made by CAMC and subsequently by us in our preliminary report which have been the subject of heated debate. CAMC provided a detailed explanation of its reasoning in this respect. WPY pointed out a number of omissions in previous truck cost estimations based on their experience. In areas where we felt unsure, or where no one could predict exactly what the circumstances may be by January 1, 1985, or for the next five years, our preliminary cost estimates were revised for a full range of possibilities. Under a consultant contract with Trimac Consulting Services, we discussed logistics; road limits, truck design, risk factors, profit expectations and other matters of contention. Subsequently, we re-estimated the costs of trucking for Trimac's review. Trimac responded by stating, "Overall, we feel that your estimates (i.e. our revised estimates) and methodology are representative for the assumptions that have to be made at this time." Trimac disagreed with certain of our calculations and revised same. The Trimac revised costs were less than our new estimates by about 5%. We chose to use the lower Trimac cost estimates. As a result, the criteria, assumptions and cost estimates that we use herein are acceptable to Trimac and, therefore, should be as accurate as is possible.

Similarly, with respect to the WPY Rail Division costs, there were assumptions pertaining to labour contract negotiations, the outcome of which cannot be accurately ascertained. Here again, a range of possibilities were estimated.

More detail is discussed under subsequent headings with respect to assumptions and their implications on cost estimates.

We reiterate that the transportation cost estimates contained herein include not only costs and benefits directly related to the proper transportation function but also indirect costs, such as costs of road maintenance and reconstruction that would otherwise not be incurred except for CAMC proposed trucking. We fully realize that not all parties will agree with all aspects of our cost assumptions and estimations. That is inevitable. All we can say is that our cost estimates have been reviewed, not only by us but also by experts in associated fields including CAMC's own consultant on truck costing -- Trimac. We doubt that, if put to a rigorous test by experts, with no vested interests, these cost estimates would be found neither to be substantially in error nor to contain such error that the comparison of cost estimates could be termed biased or unfair.

Before dealing with the costing of each transportation option, it is important to note that we are not able to predict when CAMC will recommence production. We are unaware of any firm agreements in principle with other parties to purchase CAMC production. Neither are we aware of any serious potential purchaser of CAMC from Dome. It appears that the chance of the mill starting up before early 1985 is bleak. For instance, CAMC's estimate of preparing the mill for operation would require 7-9 months from the date of the decision to do so. That decision will not likely be made until CAMC has secured valid rate quotations for the transportation of its traffic. CAMC informs that potential truckers cannot so-quote until early summer after having seen the highway routes first hand. Lead time will be required to acquire trucks, trailers and containers if a carrier other than

WPY is engaged. WPY will not likely be able to offer a comparable composite rate quotation (truck-rail-terminal) until it has at least obtained agreements in principle or labour contracts with the unions that represent its' employees -- something that we understand will occur shortly. Nevertheless, we costed the three transportation options assuming CAMC would recommence production and resume shipments on or about January 1985 using costs, in terms of 1983 dollars.

2.2 COST ESTIMATES OF TRUCKING FROM FARO TO SKAGWAY VIA THE SOUTH KLONDIKE HIGHWAY

2.2.1 The Highway

The South Klondike Highway is that part of Highway 2 that runs from the Alaska Highway to the U.S. port of Skagway. It was first opened to through traffic in the summer of 1979, however, various segments of its total length had been open prior to that time. The total haul distance from Faro to Skagway is 565 km, 475 km in Yukon, 42 km in B.C. and 24 km in Alaska.

It was opened to through traffic for three basic reasons: a) to facilitate local traffic in summer months; b) to encourage tourism; and c) to provide a competitive means of shipping general freight from Skagway to Whitehorse.

At the time when funding was being considered, there was a general opinion that a new route for moving inbound passengers and general freight would provide competition with the WPY Rail Division, which had held a virtual monopoly on through-traffic up until 1979. It was hoped that the highway would thereby result in lower personal transportation costs and in lower consumer prices in Yukon. As well, it was argued that the highway would reduce the Yukon citizens' feeling of isolation. What was very clear, however, was that the opening of the through highway was not to provide an outbound route for heavy ore trucks.

The current policy of the Yukon Government is that the highway is essentially a facility for tourists and local residents during summer seasons. Alaska concurs with this policy. The road has never been kept open during the winter months, and there are no plans to do so. Nevertheless, this policy could be changed by the B.C. and Yukon Governments. That would be a political decision that would probably require Federal Government approval if additional funds were required by Yukon. Similarly, approval would be required by the State of Alaska with respect to the use of the road in Alaska.

CAMC would like to ship its concentrate and receive its backhaul via this highway. CAMC justifies their position, in part, by claiming it is the Governments' responsibility to provide adequate roads and highways -- "...that is what taxes are for..." to quote one CAMC official.

A detailed description of this Highway was provided in the preliminary report. Suffice to say here that Public Works Canada experts have pointed out that sections of this Highway would not stand up to the "B-train" trucks contemplated by CAMC and that on other sections the co-mingling of

tourist vehicles and B-train trucks would be hazardous without substantial road reconstruction. Yukon Department of Highway experts agree with this latter point.

Since publication of our preliminary report, CAMC contracted EPEC Consulting Western Ltd. to provide them with an evaluation of the costs of upgrading the South Klondike Highway to accommodate B-train truck traffic. CAMC concluded that:

"a) The truck traffic imposed on the South Klondike Highway would not greatly exceed that which is currently encountered on the Alaska Highway and other segments of the Northwest Highway System.

b) Given this truck traffic volume, the capacity of the South Klondike Highway would not be severely impaired.

c) The current design standards of this route do not impose a severe restriction in terms of safety requirements on the South Klondike Highway given an average running speed of 70 km/hr.

d) The South Klondike Highway as constructed can withstand the loads as imposed by B-train truck traffic from a structural load carrying capacity point of view. Subject to some minor spot improvements on the roadway and an incremental additional maintenance cost.

e) Incremental maintenance costs quoted in the (preliminary) inquiry report are, in our (CAMC's) view, excessive.

f) No consideration has been given to the incremental cost of roadway upgrading costs to handle B-train traffic which would only be in addition to those upgrading costs already planned or which would normally occur.

g) The cost of upgrading excluding the scheduled programs in 1984 is $2.6 million and can be spread over 5 years reconstruction.

h) The incremental summer maintenance cost would be $267,300/year and the additional winter snow removal costs including equipment and facilities costs would be $500,000/year."

Presently, this Highway is closed to through traffic in the winter (October 15 to May 1). The maximum gross vehicle weight for through commercial vehicles on the Canadian section of the Highway is 9,000 kg (19,845 lbs.). The B-train truck operation contemplated by CAMC involves a gross vehicle weight of 134,500 lbs. - well in excess of legal load limits.

The section of the South Klondike Highway in Alaska is also closed in winter months and has a gross vehicle weight restriction governed by an axle loading formula. The gross vehicle weight for a 7-axle B-train with a 65 foot wheel base is 98,000 lbs. The State of Alaska policy is simple. Alaska will neither raise these weight restrictions, grant over weight

permits, nor expend the monies necessary to open this road in winter months to permit CAMC to truck to Skagway. CAMC has chosen to ignore the Alaskan position when it developed its trucking cost estimates.

Critical to CAMC's ability to truck on the South Klondike Highway is its ability to convince the Government of Yukon, British Columbia and the State of Alaska to raise their weight restrictions. Equally critical for CAMC's truck cost assumptions to be valid is its ability to convince those Governments and the Federal Government to pay for the winter snow removal, road reconstruction for safety and incremental year-round maintenance costs of the Highway, when subjected to the passage of such heavy trucks. To our knowledge no serious discussions as to these matters have taken place except in the context of this inquiry. It cannot simply be assumed that Government would invest large sums of money based on such an unrealistic costing exercise.

CAMC has, however, recognized that, at minimum, it may have to operate only 14 hours per day, at night, in the summer months, shuttle its B-trains to meet Alaskan weight standards and perhaps compensate the State of Alaska for winter snow removal. To our knowledge CAMC has suggested no other concessions for the costs of using this Highway under higher weight limits.

Under current regulations, a CAMC trucking operation would have to abide by the laws and regulations of three jurisdictions (Yukon, B.C. and Alaska) as they apply to this Highway. In addition, Canada and U.S. customs regulations would have to be adhered to for goods moving over the route.

2.2.2 The Terminal

Transportation cost estimates for an all-truck transportation operation for CAMC from/to Faro to/from vessel at Skagway are not limited just to trucking costs. The cost of terminalling the lead-zinc concentrate in Skagway and load-out to awaiting ships must also be included. WPY terminal charges are part of the land transportation costs.

As things now stand, the concentrate terminal and shiploading facilities in Skagway are owned and operated by the Skagway Terminal Company which, in turn is owned by White Pass Transportation Inc. which is owned by WPY. Additionally, we are led to believe that WPY also owns exclusive rights to the waterfront in Skagway.

CAMC had an option to purchase this terminal from WPY at substantially less than replacement value. If that option, which terminated on December 30, 1983, had been exercised by CAMC, it would have afforded CAMC the cost/price control over this critical "gateway" facility to its export markets. As it now stands, WPY controls not only that facility but also the pricing of the services that the gateway facility offers. By not exercising the option, but yet still favouring the all truck route to Skagway, CAMC may have lost substantial transportation cost savings that were within its grasp, if it or its parent, Dome, had released the capital necessary to buy and hence control the Skagway terminal. We discussed this with CAMC officials, and they admitted frankly that they "...did not have the money..." at this

time. The pricing policy of WPY with respect to the Skagway terminal is critical to the comparison of transportation options.

In theory, at least, WPY can control the total transport system cost to CAMC, even if CAMC contracts with someone else to truck from/to Faro to/from Skagway. WPY can do this by virtue of the pricing of terminal facility services, which CAMC must now also negotiate if it wishes to market its concentrate abroad via Skagway. It does not seem logical to us that WPY would employ the same pricing system for the terminal on an all truck route (other than WPY trucking) to Skagway, when, at the same time, it would have to absorb the full cost of writing off its railway investment of $26.5 million. WPY has confirmed this. It will price the terminal "...as high as it can...", if CAMC trucks on the South Klondike Highway.

In an attempt to compete for the CAMC traffic, WPY would likely price the terminal differently: a) if CAMC contracts WPY truck-rail or a WPY all-truck system; as compared to b) if CAMC elects and is able to contract with someone other than WPY to truck to/from Skagway. Obviously, the terminal charges to CAMC for the latter circumstance would be much greater than for the former, although the terminal costs to WPY would be similar.

2.2.3 General Costing Considerations

While we do not wish to become embroiled in an endless argument as to whose costs are correct, we do think it productive to make comparisons between our cost estimates and those of CAMC from whence the widely publicized CAMC transport saving figures of $10-17 million per year have evolved. In this respect, CAMC has publicly reiterated time and again their opinion that this saving would materialize, if they were permitted to use the South Klondike Highway at no cost. CAMC has stated this so often that it appears that CAMC firmly believes that a saving of this magnitude is possible. Our following analyses of the costs of trucking on the South Klondike Highway will show that when all the factors are considered, all the costs included and all the risks taken into account, CAMC's trucking cost estimates on the South Klondike Highway are far too low. We will further show that this is but one reason for the alleged savings being far too high.

Costs of future CAMC truck operations from/to Faro to/from vessel at Skagway via the South Klondike Highway are difficult to pin down. There are many obstacles and constraints that CAMC would have to overcome before the most efficient lowest cost trucking operation could be attained. Just to mention a few, CAMC will have to come to an arrangement with Yukon, B.C. and Alaska with respect to: 1) opening of the road in the winter, 2) raising load limits, 3) public safety, and 4) customs clearance. CAMC will also have to come to an arrangement with WPY for use of the WPY Skagway terminal and with the U.S. Teamster Union with respect to exemption from U.S. area wide wage standards. CAMC will also have to offer the necessary securities to any trucking firm to minimize costs associated with minimizing the truckers investment risk, if CAMC is unwilling to accept the risk of operating a proprietary operation. All of these factors and others have an influence on transportation costs on the South Klondike Highway. None can simply be assumed away as CAMC has done in determining the alleged $10 to $17 million savings. Neither can they simply be relegated to being problems that can be solved solely by political means, without reliance on technical and economic

realities, as CAMC has done. Therefore, it is not surprising that there are large differences in CAMC trucking cost estimates and those we have developed, as those costs depend so strongly on the qualitative judgment necessary to guess which combination of circumstances will in fact materialize. To a large degree the decisions of Yukon, B.C., Alaska and the Federal Government, arising from this inquiry, will dictate those circumstances and we cannot prejudge those decisions. We can only estimate what the costs would be for the most probable set of circumstances that would arise from those decisions.

There are certain basic criteria that must materialize before the contemplated CAMC truck operation on the South Klondike is, in fact, feasible. These are:

1) The Canadian and Alaskan sections of the South Klondike Highway must be opened year-round and a decision is required as to who will pay for the snow removal and winter road maintenance costs.

2) At minimum the truck weight restrictions on the Canadian sections of the South Klondike Highway must be raised to the CAMC designated gross vehicle weight of 134,500 lbs. and a decision is required as to who will pay for the incremental road maintenance costs arising from the continuous use of the South Klondike Highway by 134,500 g.v.w. B-trains.

3) As the CAMC trucks will pose a hazard to the public as the South Klondike Highway now exists, and as to raising the load limits safety must be ensured, a decision is required as to who will pay for the capital improvements necessary to make the highway safe.

4) As Alaska has categorically refused either to raise the State load limits to 134,500 lbs. or to grant over weight permits for CAMC trucks, CAMC will have to "shuttle" its truck trailers on the State side and either add an additional axle to the aft trailer, or "light load" the aft trailer, in order to meet the existing State load limits.

5) Apart from item 3) other provisions must be agreed upon whereby Yukon, B.C. and Alaska are satisfied that no undue hazard will be posed by CAMC trucks to private vehicles on the South Klondike Highway and a decision is required as to who will pay for those provisions.

There are also other criteria that require resolution if the most efficient trucking operation on the South Klondike Highway is to be accomplished by CAMC. These are:

1) Negotiation of a reasonable charge to CAMC for the use of the Skagway Terminal and shiploading facilities owned by WPY.

2) The development of an agreement and procedures between respective parties for the customs clearance of CAMC traffic.

3) The redesign of terminal handling operations at Skagway to accept trucks instead of rail cars.

There are yet other factors which cannot be forecasted with accuracy which could significantly affect trucking costs on the South Klondike Highway. These are:

1) Road bans will not permit 24 hour per day 365 days per year truck operation at the design truck load capacity.

2) Winter conditions will not permit an optimal continuous truck operation.

3) Continuous CAMC truck operations will likely degrade road surface integrity to some unknown degree requiring additional truck maintenance resulting in possible delays due to that additional maintenance or possible requirements for additional equipment.

4) Accidents on this untried route will require equipment contingencies.

5) U.S. union disruption of trucking will result in delays in the early periods of truck operations.

6) If road reconstruction is required to make the South Klondike Highway safe (estimates of up to three years work), this work will cause substantial delays in truck operation.

2.2.4 Trucking Costs

Appendix A details the assumptions and methodology used in developing trucking cost estimates. The Appendix also discusses the major reasons for the difference in our cost estimates between the preliminary report and this final report and between these cost estimates and those of CAMC.

A summary of the trucking costs between Faro and Skagway, as verified by Trimac, are presented below for our base case scenario of 474,000 tonnes of concentrate and 54,600 tonnes of backhaul.

Table 2.1

TRUCKING COSTS FOR THE FARO-SKAGWAY ROUTE

	$000/yr*
Driver Costs	6,868.5
Tractor Costs	7,542.1
Trailer Costs	2,158.7
Container Costs	263.9
Depreciation Costs	1,707.6
Overhead Costs	5,961.0
TOTAL	24,500.8

* 1983$

2.2.5 Terminal Costs

As mentioned earlier, WPY would likely price the terminal operations differently: a) if CAMC contracts WPY's truck/rail or a WPY all truck system; as compared to b) if CAMC contracts a trucking company other than WPY. In the former optimistic case, the charge would be similar to the historic charge adjusted for inflation. In the latter pessimistic case, the charge would likely be set to yield a truck-rail terminal joint charge less than the truck-terminal rates/costs to Haines.

Table 2.2 illustrates the terminal costs to CAMC from an optimistic and pessimistic viewpoint.

Table 2.2

SKAGWAY TERMINAL COSTS TO CAMC
($000/yr)*

	Optimistic	Pessimistic
Terminal Costs	$3,000	$7,990**

* 1983$

** Assumes WPY adopts a monopolistic or predatory pricing policy to yield a total truck and terminal charge marginally less than the combined truck and terminal charge to Haines.

2.2.6 Highway Costs

In our preliminary report, Public Works Canada (PWC) provided us with an assessment of highway upgrading costs on the Haines and Stewart routes in order to make B-train truck traffic feasible and to afford safe passage to private vehicles. We approached PWC in February, 1984 to provide the inquiry with an estimate of the highway upgrading or reconstruction costs for the South Klondike Highway between Whitehorse and the U.S. border in order to make B-train traffic feasible and to afford safe passage of private vehicles.

PWC replied with the following:

Year Scheduled	Location	Construction Operation	Cost $ x million (1983)
Alaska Highway			
1985	1476-1454.8 km	Asphalt Overlay	2.54
South Klondike Highway			
unscheduled	159-146 km	increase base course after widening and re BST	0.906
--	146-132 km	already reconstructed and adequate for B-trains	--
1984	132-105.8 km	reconstruct to BST standard	4.437
unscheduled	105.8-24 km	reconstruct to 10 m c/w pullouts and BST	11.596
		TOTAL	$19.479
Additional Cost If Decision Made To Pave			
unscheduled	159-24 km	pave 10 m wide	$15.593

Since some of the reconstruction considered necessary is presently scheduled, the applicable estimate of highway upgrading costs to make B-train traffic safe and feasible is $12.5 million. It is interesting to note that PWC's minimum estimate of $19.5 million is very close to Mr. Blackman's, Deputy Minister of Yukon Department of Highways, estimate of $20 million used in the preliminary report. Both of these expert opinions are substantially greater than CAMC's estimate of $2.5 million.

We are of the opinion that the estimates provided by PWC and Yukon Department of Highways are more realistic than those prepared on behalf of CAMC. PWC and the Yukon Department of Highways officials have had many years experience in highway design, construction and maintenance of northern highways which are subjected to unique environmental extremes and heavy industrial usage. They are also both knowledgeable of and professionally responsible for issues pertaining to public safety on these highways. Therefore, it is upon this authoritative advice, we believe that CAMC ore trucking would jeopardize public safety without a minimum Canadian reconstruction program on the South Klondike Highway of $12.5 million. The maximum possible cost could be $28.1 million if paving was required.

Our position with respect to required capital expenditures in Alaska on the South Klondike Highway and incremental annual maintenance and snow removal expenditures on the Canadian and U.S. portions of the highway has not changed since the preliminary report. Therefore, highway upgrading costs and annual incremental maintenance and snow removal costs are as follows:

	Canadian Portion*	U.S. Portion*
minimum unscheduled reconstruction capital	$12.5 million	
maximum unscheduled reconstruction capital	$28.1 million	
incremental year-round maintenance equipment capital	$640,000	$500,000
incremental year-round maintenance	$534,000/yr	$143,000/yr
winter snow removal	$573,000/yr	$300,000/yr

* 1983$

At this point, it is important to remember that the process of cost estimation is to determine a relative cost savings of one option to another. The $10 to $17 million savings estimated by CAMC was the difference between CAMC's estimates of costs of trucking on the South Klondike Highway relative to CAMC's estimates of costs of using the traditional WPY truck-rail route.

As the WPY owns the railway infrastructure that is now in place, the expense to WPY of operating that railway includes the maintenance and ownership costs of that infrastructure. Therefore, valid cost comparisons between the South Klondike Highway and the WPY Railway should be on the basis that the incremental maintenance and capital costs of the South Klondike Highway (in Yukon, B.C. and Alaska), due to CAMC trucks, be included in the trucking cost estimates. As well, the cost of winter snow removal (in Yukon, B.C. and Alaska) should also be included for the highway as such costs are also borne by the railway.

Furthermore, we have no reason to discount the opinions of Yukon and PWC experts in northern highway construction, maintenance and operation. Their opinion is that the South Klondike Highway as it now stands is unsafe for public vehicles if it is not reconstructed to handle B-train traffic. We therefore believe, <u>at minimum</u>, CAMC trucks should not operate during peak periods of summer tourist traffic. In this respect, <u>at minimum</u> and until reconstruction is complete, CAMC trucking should be restricted to 14 hours per day, at night, during the months of June, July and August between Whitehorse and Skagway. Notwithstanding this minimum criteria, it is our opinion that the hazard giving rise to trucking restrictions in summer months will still remain in other seasons and perhaps even worse in winter months until reconstruction is completed. Although public traffic may be less, an accident only takes one truck and one private vehicle.

A detailed engineering study of the South Klondike Highway may reveal that such restrictions are insufficient and that it requires widening and resurfacing for safety of the public for whom the road was built initially. If this is necessary, the cost so incurred would be solely due to

CAMC trucks, at least for the short and likely for the medium term. As such, CAMC should bear at least a major portion of the cost of reconstruction since, in our minds, an unfair interference in the natural competitive position of the existing WPY transportation infrastructure would arise if the public carried the full cost burden of reconstruction. That would be contrary to National Transportation Policy.

Therefore, we firmly stand behind our position in the preliminary report that any cost, above and beyond existing or planned costs related to the South Klondike Highway, would be incurred due to the presence of CAMC concentrate trucks. We evaluated the expenditure of any capital investment, in road reconstruction, on the basis of bond rates. The minimum cost to Government, consisting of only the annual interest on required capital but no capital repayment, to permit CAMC concentrate trucking on the South Klondike Highway, is estimated as follows:

$000,000/yr*

	Canada	U.S.	TOTAL
Capital**	1.51	0.10	1.61
Incremental Annual Maintenance	1.11	0.44	1.55
TOTAL	2.62	0.54	3.16

* 1983 Canadian $

** interest based on 11.5%/yr. bond rate

In the same manner, if the minimum cost of upgrading the South Klondike Highway is not sufficient to withstand CAMC concentrate trucking on this route, the economic value of the costs of upgrading to pavement (in Canada), plus incremental maintenance requirements would be as follows:

$000,000/yr*

	Canada	U.S.	TOTAL
Capital**	3.31	0.10	3.41
Incremental Annual Maintenance	1.11	0.44	1.55
TOTAL	4.42	0.54	4.96

* 1983 Canadian $

** interest based on 11.5%/yr. bond rate

2.2.7 Summary Cost Estimate

Our estimates of total transportation cost of trucking on the South Klondike Highway in consideration of the direct trucking costs, the terminal costs and the economic value of highway upgrading costs, plus road maintenance and snow removal costs, are as follows:

	$000,000/yr*	
	Optimistic	Pessimistic
trucking costs	24.5	24.5
terminal costs	3.0	8.0
highway costs	3.2	5.0
TOTAL	30.7	37.5

* 1983$

By comparison, CAMC estimates of total transportation costs on the South Klondike Highway are as follows:

	$000,000/yr*	
	Shuttle	No Shuttle
trucking costs	20.2	19.0
terminal costs	-	-
highway costs	0	0
TOTAL	20.2	19.0

* 1983$

The above two tables indicate that CAMC's estimates of trucking costs are $4.3 to $5.5 million per year less than our estimates of trucking costs. As well, it can be seen that our transportation costs are $10.5 to $18.5 million per year more than CAMC's transportation cost estimates as CAMC did not include the very real costs of the highway and the terminal.

2.3 COST ESTIMATES OF TRUCKING FROM FARO TO HAINES VIA THE HAINES HIGHWAY

2.3.1 The Highway

The highway route to Haines, Alaska from Faro is 680 km of which 530 km are in Yukon, 61.5 km in B.C. and 88.5 km in Alaska. A detailed description of this route was presented in the preliminary report. Suffice

to say here that Public Works Canada (PWC) has pointed out that certain sections of this route could not support B-train trucks and that other sections would involve a "disastrous unsafe vehicle mix combining the truck density with the tourist traffic coming from and going to the ferry terminal at Haines".

Present Canadian weight restrictions on this road, according to PWC, would restrict a 7-axle B-train configuration to 110,000 lb. g.v.w., not the 134,500 lb. g.v.w. standard contemplated by CAMC. The present weight restriction on this highway in Alaska is 98,000 lb. g.v.w. The current State of Alaska policy is not to increase this weight restriction above 98,000 lb. nor to grant over weight permits for CAMC trucks.

CAMC's highway consultant provided the following summary with respect to the Haines Highway.

"1) This alternative (to Haines) would result in additional costs to those costs associated with using the South Klondike Highway due to:
   a) the haul route is significantly longer
   b) spot improvement to improve alignment and subgrade conditions
   c) increased summer maintenance costs
   d) a decreased expected life of BST surfacing

2) Incremental costs due to winter maintenance are not a consideration on this route

3) Some interruption to traffic could be expected due to winter weather conditions

4) The longer haul distance, the expected lower running speed over two-thirds of the route and potential periodic shut down during winter would combine to make it more difficult and costly to haul the large tonnages anticipated by CAMC."

2.3.2 The Terminal

If CAMC elects and is permitted to transport its traffic by truck from Faro to Haines, it will be obliged to build a new concentrate terminal and shiploading facility in Haines. The facility would probably be similar to the WPY terminal facility in Skagway, which CAMC used while it was in production. The capital cost of this new terminal at Haines would be far in excess of the capital cost to CAMC had it exercised its option to buy the Skagway terminal. If the ability of CAMC to raise the necessary capital to purchase the terminal facility in Skagway was a problem, it surely would be a far greater problem in Haines.

The cost of this terminal in Haines and its operation would be part of the overall transportation cost to Haines and shall therefore be included in the related transportation cost estimates.

2.3.3 Trucking Costs

Trucking costs on the Faro-Haines route are estimated on the same basis as on the Faro-Skagway route. These costs are summarized below.

Table 2.3

TRUCKING COSTS FOR THE
FARO-HAINES ROUTE

	$000/yr*
Driver Costs	8,035.8
Tractor Costs	9,503.7
Trailer Costs	2,655.5
Container Costs	328.4
Depreciation Costs	1,863.6
Overhead Costs	6,803.3
TOTAL	29,190.3

* 1983$

2.3.4 Terminal Costs

The basis for the development of the terminal cost at Haines used in our preliminary report has not changed. We estimate the minimum terminal cost at Haines to be $3.3 million per year.

2.3.5 Highway Costs

Although budgets are not completely in place, plans are scheduled to upgrade the Haines Highway to handle heavy trucking. It would be unfair, therefore, to attribute the capital cost or economic value of scheduled upgrading to CAMC trucking. However, incremental maintenance costs due to CAMC trucking should be attributed to CAMC trucking.

Therefore, the economic impact of CAMC use of the Haines Highway route is shown below:

$000,000/yr*

	Canada	U.S.	TOTAL
Incremental Maintenance	1.2	0.4	1.6
TOTAL	1.2	0.4	1.6

* 1983$

2.3.6 Summary Cost Estimate

Our estimates of the total transportation cost of trucking on the Faro-Haines route are shown below:

	$000,000/yr*
trucking cost	29.2
terminal cost	3.3
highway cost	1.6
TOTAL	34.1

* 1983$

By comparison, CAMC estimates of total transportation costs on the Haines Route are as follows:

	$000,000/yr*
	No Shuttle
trucking cost	26.1
terminal cost	-
highway cost	0
TOTAL	26.1

* 1983$

The above two tables indicate that CAMC's estimates of trucking costs are $3.1 million per year less than our estimates of trucking costs. As well, it can be seen that our transportation costs are $8 million per year more than CAMC's transportation cost estimates as CAMC did not include the very real costs of the highway and the terminal.

2.4 COST ESTIMATE OF TRUCK/RAIL FROM FARO TO SKAGWAY VIA WPY SYSTEM

2.4.1 The Railway

The WPY Railway, first built in the period 1898-1900, runs from Skagway through northern British Columbia to Whitehorse along a 176.6 km narrow guage (91.4 cm) track. Of the total railway length, 94.6 km are located in Yukon, 49.4 km in the Province of British Columbia, and 32.6 km in the State of Alaska. In 1981, the last full year of operations prior to the closing of CAMC, more than 63,400 tonnes of freight, 40,400 tonnes of petroleum products, 377,400 tonnes of mineral concentrate and approximately

55,000 passengers were carried by the Railway. The roadbed in Yukon and British Columbia is owned and maintained by WPY, while the roadbed in Alaska is held by way of easement but maintained by WPY.

2.4.2 The Trucking

The truck portion of the WPY truck-rail haul runs from Faro to rail head at Utah. There, containers are transshipped from truck trailers to the railway flat cars for furtherance to Skagway. This operation could be carried out by the WPY truck division as it has been in the past, or contracted out to another trucker.

2.4.3 The Terminal

Skagway Terminals Ltd., located in Skagway, is wholly owned by WPY. The facility includes a bulk handling terminal in Skagway designed to receive CAMC lead-zinc concentrate from WPY rail cars, covered storage and reclaim and shiploading facilities. The terminal has a storage capacity of over 100,000 tonnes of concentrate.

2.4.4 Railway Costs

WPY provided us with a detailed cost estimate break-down of the Rail Division operations for a number of different traffic mixes and labour agreements. We reviewed these estimates in detail and obtained clarification from WPY on a number of areas that were unclear. We are satisfied that these estimates are complete and are as representative of the future actual costs as is possible.

The base case assumptions as to railway traffic volume and rates is as follows:

Table 2.4

ASSUMED WPY RAIL TRAFFIC VOLUME

Commodity	Volume (tonnes/yr)	"Budget Rate" ($/tonne)*
CAMC Concentrate		
"Base Case"	474,000	Break-Even Rate****
Northbound Freight**	57,153	56.32
Southbound Freight	6,350	22.20
Cassiar Asbestos	25,401	6.47
United Keno Hill Ore	4,536	26.15
Gasoline	6,800,000 gal.	.104/gal.
Passengers	40,000	62.50/pass.***

* 1983$
** Includes CAMC backhaul volume.
*** Average expected fare/passenger.
**** WPY agrees to transport CAMC ore at a rate that would result in the WPY Rail Division obtaining a total revenue that would cover all its expenses in serving CAMC traffic.

The assumed average CAMC traffic is 474,000 tonnes per year of concentrate and 54,600 tonnes per year of backhaul freight. WPY has stated that it will accept CAMC traffic at rates that will result in the Rail Division "breaking-even". What is important to WPY is that its railway will not lose money in the foreseeable future.

WPY believes it can attract the aforesaid non-CAMC traffic at the stated rates. We have no reason to question their judgment in this respect. The estimated revenue generated from non-CAMC traffic, therefore, is as follows:

	$000/yr*	
Passengers	2,500**	
Gasoline	707	
United Keno Hill Mine Ore	119	
Cassiar Asbestos	164	(664)***
Southbound Freight	141	
Non-CAMC Northbound Freight	144	
Total	3,775	(4,275)

* 1983$

** in 1982 average passenger revenue = $2,816,000
1981 average passenger revenue = $2,753,000

*** we believe that this traffic should have a rate allocation to rail at least equivalent to the United Keno Hill Mines rate.

In short, the revenue that appears to be forthcoming from shippers other than CAMC would be in the order of $3.8 to $4.3 million (1983$). This could, however, change with time. WPY could more aggressively market its passenger service. There is also the possibility of "windfall traffic" related to any new construction projects in Yukon, etc. Furthermore, if non-CAMC revenue increases through WPY's good fortune or good marketing, we believe it should have the opportunity to benefit from the profits thereof, as would CAMC in the event of a sudden rise in lead-zinc prices.

The expense of the Rail Division to accommodate the aforementioned CAMC and non-CAMC traffic volumes is estimated as follows:

$000/yr*

	Total Expense	Non-CAMC Revenue	CAMC Revenue Required	Likely CAMC Revenue Required
Current Labour Contracts	20,588	3,800-4,300	16,288-16,788	16,288
Expected Labour Contracts	16,839	3,800-4,300	12,539-13,039	12,539
Variation	3,749	0	3,749	3,749

* 1983$

Therefore, if CAMC shipped all of its concentrate and all of its backhaul traffic on the WPY Railway the total railway transportation cost to CAMC would be in the order of:

a) $16.3 million per year (1983$), if current labour contracts were in place; or
b) $12.5 million per year (1983$), if expected labour concessions are agreed to.

CAMC argues that it finds it difficult to rationalize the predicted railway cost, with historical costs, in view of inflation and the increased tonnage. Additionally, CAMC worries that "it is not clear that the rates tabulated in the (Preliminary) Report meet all of WPY's "break-even" requirements". Notably CAMC wondered if the cost of the railway debt load is included. WPY confirmed that it is included. CAMC also questioned the total railway expense estimate of $20,588,000 concluding that "CAMC in attempting to determine a realistic estimate of costs for comparison purposes, accepts the figure of $23,416,000 for total rail costs as a reasonable estimate for a status quo operation" - a figure derived by CAMC. We cannot rationalize CAMC's statistical approach that gave rise to the $23,416,000 figure. The correct total railway expense estimate is $20,588,000 in 1983$ for moving all traffic and passengers.

WPY has provided these expenses in the context of what break-even will mean and we have no reason to doubt WPY expense estimates. In fact, the expense estimates provided by WPY have not been based on operations with their new locomotives which we believe and understand would bring the expenses down appreciably since locomotive maintenance, a sizeable expense in the present operation, would be considerably lower with the new equipment. To this extent, the cost comparisons we make on this basis, therefore, favours the economic benefits of using the South Klondike Highway.

2.4.5 Trucking Costs

In terms of transportation cost comparisons, the cost of trucking from Faro to the WPY rail head is based on the same criteria used to cost the all-truck options to Haines and Skagway.

The cost of trucking, as noted earlier will depend very much on the contractual securities offered the trucking operator by the shipper - CAMC. We have assumed that any contract for the haulage of CAMC concentrate will require long term security (thereby resulting in a relatively low truck cost) associated with a minimum 3-year contract, assuming trailer and container depreciation calculated over 8 years. On this basis, the total trucking cost estimate for CAMC concentrate and backhaul traffic to/from Faro from/to WPY rail head would be in the order of $14.4 million per year.

2.4.6 Terminal Costs

With respect to the WPY terminal charges, CAMC has traditionally paid WPY in the order of $2.5 million per year. However, considering increased volumes and inflation, we have assumed a cost to CAMC of

$3.0 million per year for all terminal handling, if the WPY has the main haul contract from/to Faro to/from vessel at Skagway.

2.4.7 Summary Cost Estimate

Based on the foregoing, our estimate of total transportation cost of servicing CAMC traffic from/to Faro to/from vessel at Skagway in 1983$ is as follows:

Table 2.5

WPY TRUCK/RAIL COSTS
ASSOCIATED WITH CAMC TRAFFIC
($000,000/yr)*

	Current Rail Labour Contracts	Expected Rail Labour Contracts
Truck Division	14.4	14.4
Rail Division	16.3	12.5
WPY Terminal	3.0	3.0
Total	33.7	29.9

* 1983$

By comparison, CAMC estimates of the total transportation costs of using the WPY truck-rail route are as follows:

	$000,000/yr*
trucking cost**	15.6
rail cost***	20.5
terminal cost	-
TOTAL	36.1

* 1983$

** CAMC uses our estimate developed in the Preliminary Report plus $100,000 for products transported through WPY's pipeline.

*** CAMC's estimate of WPY's expense with respect to CAMC concentrate and resupply traffic.

In summary, CAMC's estimate of the total transportation cost of using the traditional WPY system exceeds our estimates by $2.4 to $6.2 million per year even though we include a terminal cost estimate.

2.5 COMPARATIVE TOTAL COST SUMMARY

Table 2.6 summarizes our estimates of the total transportation costs of each transportation route option. The total costs include all the costs of transportation and handling including the highway costs.

Table 2.6

TOTAL TRANSPORTATION COST COMPARISON

$000,000/yr*

Route		Optimistic	Pessimistic
1) WPY Truck/Rail			
i) truck		14.4	14.4
ii) rail		12.5	16.3
iii) terminal		3.0	3.0
	TOTAL	29.9	33.7
2) South Klondike Highway			
i) truck		24.5	24.5
ii) terminal		3.0	8.0
iii) highway		3.2	5.0
	TOTAL	30.7	37.5
3) Haines Highway			
i) truck		29.2	29.2
ii) terminal		3.3	3.3
iii) highway		1.6	1.6
	TOTAL	34.1	34.1

* 1983$

By comparison, the following summarizes CAMC's transportation cost estimates for transportation via the three options.

Table 2.7

CAMC TRANSPORTATION COST ESTIMATES

$000,000/yr*

Route			
1) WPY Truck/Rail			
i) truck		15.6	
ii) rail		20.5	
iii) terminal		-	
	TOTAL	36.1	
2) South Klondike Highway		No U.S. Shuttle	U.S. Shuttle
i) truck		19.0	20.2
ii) terminal		-	-
iii) highway		0	0
	TOTAL	19.0	20.2
3) Haines Highway		No U.S. Shuttle	
i) truck		26.1	
ii) terminal		-	
iii) highway		0	
	TOTAL	26.1	

* 1983$

Tables 2.6 and 2.7 demonstrate the significant differences between CAMC's transportation cost estimates and ours. These are due to CAMC's restricted assumptions and omission of certain costs associated with trucking on the South Klondike and Haines Highway and over estimation of WPY costs.

2.6 COST SAVINGS

Based on our estimates of total transportation costs for the three route options, we conclude that the estimated transportation savings or losses relative to the traditional WPY truck-rail route are:

Table 2.8

INQUIRY ESTIMATES OF TRANSPORTATION COST SAVINGS/LOSSES

$000,000/yr*

Route	Minimum Losses	Maximum Losses
WPY	0	0
South Klondike	(0.8)	(3.8)
Haines	(0.4)	(4.2)

* 1983$

note: ( ) means a loss rather than a saving

By comparison, CAMC's estimates of transportation cost savings or losses are as follows:

Table 2.9

CAMC ESTIMATES OF TRANSPORTATION COST SAVINGS/LOSSES

$000,000/yr*

Route	Minimum Savings	Maximum Savings
WPY	0	0
South Klondike	$15.9**	$17.1***
Haines Highway	-	$10.0***

* 1983$
** shuttle
*** no shuttle

In summary, when costs of all factors are realistically considered, and included, and the costs of transportation along the two proposed all-highway routes and the traditional WPY truck/rail system are compared, (without Government intervention by way of road upgrading, snow removal and maintenance), the cost of the traditional WPY truck/rail system is the least expensive alternative.

Put simply, we do not believe there are any cost savings to CAMC in the total scheme of things to be derived from an all truck route as opposed to the traditional system of transporting its concentrates. The $10-$17 million savings alleged by CAMC simply will not materialize. In fact, we conclude that losses up to $3.8 million per year on the South Klondike Highway and up to $4.2 million per year on the Haines Route could be incurred if the WPY truck-rail system was not employed.

3.0 TRANSPORTATION RATES

"Given the realities of the situation, to what degree will cost estimates reflect actual commercial transportation rates and charges?"

3.1 GENERAL

Cost estimates of a transportation service are unquestionnably a major criteria in the determination of a commercial rate or charge for that transportation service. It does not, however, follow that the cost estimate plus a reasonable profit are the sole criteria for the setting of a commercial rate or charge. The differences in cost estimates between the three major transportation operations from/to Faro, to/from vessel at Haines or Skagway are simply that - differences in cost estimates. The actual economic differences between these three options, in terms of relative potential savings to CAMC, will be determined by the commercial rates and charges that CAMC can negotiate with carriers willing to provide the desired service. Therefore, in order to properly weigh the true cost/benefits of one transportation option with another, the factors that evolve a commercial rate and charge from a cost estimate must be seriously considered.

The foregoing cost estimates to/from Faro, from/to vessel at Skagway or Haines via the three transportation options are the best estimates that we can derive at this time. In the case of the trucking operations, the cost estimates include a resonable profit component, but no operating contingencies, and our calculations have been verified by CAMC's own consultant -- Trimac. In the case of the railway operation, the cost estimates include all expense items that would be used to determine the "break-even rail rate" that would satisfy WPY. The range of terminal charge estimates includes consideration of the probability of competitive pricing rather than a simple cost plus reasonable profit criteria. To some degree, we have included consideration of factors other than cost estimates that would normally be included in a commercial rate or charge determination. We realize that there are many other considerations, primarily in the area of business risk determination, that will be considered by commercial carriers when they tender contracts for servicing CAMC traffic in a negotiative and competitive environment.

Therefore, serious consideration of the above question is crucial to the Government's decision-making process related to the transportation of CAMC traffic. Such consideration is best made according to the following categories:

1) Initial service contract and associated rates and charges;

2) Short term rates and charges;

3) Long term rates and charges; and

4) Other factors.

3.2 INITIAL RATES AND CHARGES

Presuming for the moment, that CAMC does recommence production and shipments by January 1, 1985, we believe that the cost estimates, derived in Chapter 2, will closely reflect the total charges to CAMC by virtue of the initial rates and charges for servicing CAMC traffic, in terms of 1983$. This is contingent upon CAMC agreeing with a carrier that CAMC will bear the major portion of the business risk associated with the movement. This type of security would likely take the following form:

a) The contract period would be a minimum of 3 years in length with guarantees of traffic volume, hence guarantees of carrier revenue. If the contract period is less, or if the security of traffic guarantees are less, the rates and charges would be higher. The degree to which the contract period or the traffic security would affect the rates and charges would vary from carrier to carrier - but would likely cause truck rates to rise more than rail rates as the capital risk on the railway would be less.

b) The contract would likely contain terms whereby, within the contract period, the shipper (CAMC) would pay for escallation of certain costs such as labour, fuel and extraordinary expenses. In this situation, it is likely that labour and fuel cost escallation would impact more on an all-truck operation than on the traditional truck/rail operation due to the inherent efficiencies of rail operations in these areas. Additionally, we would expect that there could be substantial extraordinary costs on the untried highway routes - particularly on the South Klondike Highway. The ability of the roads to stand up to heavy trucking, the matter of public safety, reaction and disruption from railway labour, extraordinary maintenance of trucks, the required equipment and labour contingencies to offset unexpected delays and down time, all could arise in the first year of operation on the Skagway and Haines truck routes and all of which were not included in our cost estimates. Because of such unknown and unpredictable factors, such securities would tend to increase the all-truck transportation bill more than with the tried WPY truck-rail system.

3.3 SHORT TERM RATES AND CHARGES

In the near term, that is the second and third year of the service contract, we believe the risk of rate and charge escallation or "add-ons" on the all-truck routes would be far greater than for the WPY truck-rail system. This is because we believe the full impact of heavy trucking on the South Klondike Highway or the Haines Highway, once realized, will result in the need to improve safety to the public and perhaps to modify the truck operations in light of the experience gained. No such cost increase would result on the truck-rail system - at least not to the same extent.

3.4 LONG TERM RATES AND CHARGES

In the longer term, that is after the first service contract expires, it is very difficult to speculate what the relative rates and charges would be or to what degree they will diverge from our cost estimates.

If, however, one of the all-truck options is chosen and permitted on the short term, the railway will be abandonned and will no longer provide any competitive pressure on the truck rates and charges as it would in the short term. There would, of course, be competition between the trucker who won the first contract and others who would attempt to attract the business at the end of the contract period. We believe, however, that the intra-modal competition may not be as strong as the short term inter-modal competition.

Nevertheless, on the long term, if one of the all-truck options is chosen, there would undoubtedly be increased truck traffic for other shippers on the chosen route - thereby reducing the incremental road costs to each user. The penalty, however, may be increased hazard to the public due to truck congestion and the loss to bulk shippers of the inherent economies of scale on the WPY railway in the future.

3.5 CONCLUSION

In conclusion, we believe:

a) The short term actual rates and charges for servicing CAMC are fairly reflected in our cost estimates;

b) the longer term actual rates and charges for servicing CAMC traffic will be greater than our cost estimates and that the actual rates and charges for all truck options will be relatively higher than our cost estimates for these options than will be the case with the WPY truck-rail option.

4.0 PUBLIC COST/BENEFIT

"What are the costs to the public purse required to facilitate CAMC's transportation preferences, and what are the benefits derived therefrom?"

4.1 GENERAL

As explained earlier, cost comparisons between the three transportation options had to be made on equal basis. That is the capital cost of infrastructure, maintenance and snow removal for each option had to be included to result in a fair cost comparison.

CAMC, however, argues that the cost of infrastructure, incremental maintenance, and snow removal on the South Klondike Highway and the Haines Highway should be borne by the public purse. Certainly, if the public paid for those highway costs, savings to CAMC may arise from those public expenditures. In the case of the South Klondike Highway, a public (Canada and Alaska) expenditure of $3.2 to $5.0 million per year would save CAMC $1.2 to $2.6 million per year. In the case of the Haines route, a public (Canada and Alaska) expenditure of $1.6 million would result in CAMC possibly losing $2.6 million per year but possibly saving $1.2 million per year. Therefore, those savings, alone, would not directly warrant the public expenditure.

We believe that if Government chose to pay for Highway infrastructure and its maintenance that not only would that action distort natural competition with the existing or available mode, contrary to National Transportation Policy, it would constitute a subsidy to CAMC. However, CAMC is "not in favour of annual subsidies". It points out "subsidies have a history of "disappearing" over a time when economic conditions improve; and subsidies do not assist in achieving the ultimate objective of creating an efficient low cost transportation system". These were wise words and we have come to the same conclusions with respect to on-going operating subsidies related to the highways and rail operations. There are, however, certain circumstances when short term Government financial intervention is in the public interest, such as the recent funds and loan received by CAMC for stripping operations at Faro.

Nevertheless, each of the transport options to CAMC have different costs to the public purse and produce different benefits both quantifiable and non-quantifiable.

In this chapter, we will discuss the Canadian costs and benefits for each transport option in order of CAMC's preference assuming the public and not CAMC pays for highway costs.

4.2 SOUTH KLONDIKE HIGHWAY

4.2.1 Public Costs

According to professional highway engineering opinion provided by PWC and confirmed by Yukon Department of Highways, a minimum unscheduled capital investment of $12.5 million in Canada would have to be spent on the South Klondike Highway to ensure public safety in light of CAMC's contemplated ore truck operation. In addition, a minimum annual snow removal and incremental maintenance cost of $1.1 million in Canada would be required to facilitate truck operations on a year-round basis. These capital and operating expenditures carry extremely high risk. That risk is tied to the uncertainty of CAMC's ability to become and remain competitive in world markets. If, for reasons beyond CAMC's control, it cannot remain competitive, the public investment would be for nought. Even if CAMC can remain competitive, the aforementioned risks with respect to potential savings renders the investment questionable.

From the public viewpoint, the public cost of the necessary capital investment is close to bond rate which has averaged 11.5% annually over a 10 year period. Notwithstanding the fact that the capital would have to be repaid and that the Government would have to accept the risks of CAMC's ability or inability to remain competitive, the minimum economic value of this cost to the public purse is the bond rate on the capital investment, plus the annual incremental maintenance and snow removal costs.

Therefore, the minimum annual cost to the public in Canada to permit CAMC ore truck operations on the South Klondike Highway, if CAMC did not pay for the costs necessary to permit it to truck safely on the highway, would be as follows:

Table 4.1

PUBLIC COSTS TO CANADA
FOR SOUTH KLONDIKE HIGHWAY ROUTE

$000,000/yr.*

Capital	1.51
Incremental Maintenance	1.11
TOTAL	2.62

* 1983$

4.2.2 Benefits

CAMC prefers to use the South Klondike Highway route as it believes the cost of transportation on this Highway would be less than other options, if the associated road costs are borne by the public purse and not by CAMC. Previously, we have shown this argument to be highly questionable. Nevertheless, there would be some major disbenefits arising from the use of the South Klondike Highway by CAMC B-train ore trucks. Of importance, is the interference of public use of this road by the large heavy trucks that would operate on a frequency of about one truck every 20 minutes. The quality of the road as a scenic tourist access to Yukon would be diminished. The public hazard in using the road would be increased. Use of the road by local residents would become less desirable and more hazardous. In order to minimize these risks, substantial up-grading of the road would be required by using public funds and if the road does not stand-up to the truck use, increased use of public funds would be required in terms of maintenance and/or reconstruction and paving in the future - all of which would not be required except for CAMC traffic. Furthermore, there would be a risk that such investment may not even be utilized fully in the future as there are no guarantees that CAMC would continue to produce over the long term.

In addition, the granting of permission to CAMC to use the South Klondike Highway on a year-round basis would necessitate the Federal Government to forgive WPY a $5 million interest-free loan under another agreement under which WPY used those funds to acquire new locomotives - a situation largely predicated on CAMC's past claim that it needed the railway on the long term. In effect, the $5 million, less reclaimed value of the locomotives, would be a direct cost associated with a decision to permit CAMC now to use the South Klondike Highway and would have to be borne by some level of Government.

On the other hand, the South Klondike Highway option would generate a substantial number of new Canadian jobs not only in the truck haul and the manufacture of equipment needed, but also in the five year road reconstruction activity. The economic stimulus of the latter project would be significant. However, the project is of questionable need, considering other options available to CAMC that would not require the sizeable expenditure of public funds in a high risk venture and considering other uses to which such funds could be used elsewhere in Yukon and Canada.

As well, Alaskan political leaders have openly stated that they would not idly stand by and permit what in effect would be the direct transfer of Alaskan jobs to Canada if the Canadian decision allowed trucking as long as CAMC's movement required passage over U.S. soil and usage of an Alaskan port.

The on-going direct benefit to Canada of a CAMC truck operation on the South Klondike Highway can be assessed through calculating the fuel and income taxes arising from the truck operation. This is illustrated below.

Table 4.2

SOUTH KLONDIKE HIGHWAY OPTION
ESTIMATED TAX REVENUE IN CANADA

$000,000/yr.

Expense:	
Payroll	4.8
Fuel	3.9
Tax:	
Personal Income Tax*	1.0
Corporate Tax**	0.8
Fuel Tax***	0.8
TOTAL	2.6

* 20% of payroll
** 40% of net truck revenue ($2.0 million)
*** 9% federal and B.C. and Yukon taxes ($.36/gal. and $.23/gal. respectively)

The economic risks to the public, if it paid for the highway costs, on the South Klondike Highway Route are very great. The range of capital cost to reconsruct the road would be huge and there is no guarantee when or how long CAMC will produce. As well, the use of this road would signal the complete demise of the WPY Railway which on the long term could result in more expensive transportation costs, not only for CAMC but also for other new mining developments. This is because of the lower economies of scale in trucking and because of the risk of uncontrolled escalation of truck rates once the railway ceases to exist. Damages to be paid for deteriorating Alaskan roads and structures coupled with the liability of increased hazards to the public add to the economic risk of this option.

For obvious reasons, the physical risk relates to public safety, a hazard which we cannot estimate other than to agree with the many people who expressed serious concern. People travelling on the South Klondike Highway and the route to Haines are in effect citizens of B.C. and Yukon when in transit and should be treated accordingly.

Combining the minimum economic costs to the public purse of highway upgrading on the South Klondike Highway to ensure public safety with quantifiable benefits derived from this upgrading, the minimum lasting net benefit to Canada of allowing CAMC trucking on the South Klondike Highway is zero as is illustrated below.

Table 4.3

MINIMUM NET BENEFIT TO CANADA OF SOUTH KLONDIKE HIGHWAY

$000,000/yr.*

Minimum Cost**	2.6
Quantifiable Benefit	2.6
Net Benefit	0

* 1983$

** the economic value of 11.5% of the minimum capital investment on the Highway in Canada plus all other Highway costs in Canada.

4.3 HAINES HIGHWAY

4.3.1 Public Costs

The engineering evaluation provided by PWC for our preliminary report showed that a number of sections in Canada presently are not adequate to support a CAMC truck operation. Reconstruction would be required before such trucking could take place or could take place safely in conjunction with public use of the highway. Unlike the South Klondike Highway, reconstruction programs are contemplated for the Haines route for reasons other than CAMC B-train operations. These plans involve a scheduled construction program for completion well beyond 1985, though. We have also determined that it would be unfair to assign the cost of reconstruction to CAMC since the programs are planned and will likely go ahead regardless of whether or not CAMC utilizes the Haines Highway. Until reconstruction is complete to make B-train truck operations safe with private venicular traffic, CAMC should, at minimum, be restricted to night operations on the highway during the peak three summer month tourist period.

The cost to the Canadian public purse arising from CAMC truck operations is shown below.

Table 4.4

PUBLIC COSTS TO CANADA FOR HAINES ROUTE

$000,000/yr.*

Incremental Maintenance	1.2
TOTAL	1.2

* 1983$

4.3.2 Benefits

According to PWC, B-train ore trucking on this route would create a disasterously unsafe vehicle mix combining the truck density with the tourist traffic. PWC also noted that the additional maintenance cost on this route would be "astronomical" if reconstruction had not been completed as it would also be on the South Klondike Highway Route.

However, trucking on the Haines Highway Route compared to the South Klondike Highway Route would involve greater Canadian employment.

Estimated tax revenues from this route are shown below.

Table 4.5

HAINES HIGHWAY OPTION
ESTIMATED TAX REVENUE IN CANADA

$000,000's

Expense:		
	Payroll	5.3
	Fuel	4.3
Tax:		
	Personal Income Tax*	1.1
	Corporate Tax**	0.9
	Fuel Tax***	0.9
	TOTAL	2.9

* 20% of payroll
** 40% of net truck revenue ($2.3 million)
*** 9% federal plus B.C. and Yukon taxes ($.36/gal. and $.23/gal. respectively)

The lasting net benefit to Canada of CAMC B-train truck operations on the Haines Highway Route is $1.7 million per year, as illustrated below.

Table 4.6

NET BENEFIT TO CANADA OF HAINES ROUTE

$000,000/yr.*

Minimum Cost	1.2
Quantifiable Benefit	2.9
Net Benefit	1.7

* 1983$

Considering the lasting net benefit to Canada for the expenditure of necessary funds to permit safe CAMC trucking on the South Klondike Highway and the Haines Highway compared to the potential savings/losses to CAMC in light of the risks thereof neither all-highway route shows much long term promise.

4.4 WPY TRUCK/RAIL ROUTE

4.4.1 Public Costs

Since the WPY is responsible for maintaining its own track and roadbed from revenues it derived from providing service to its shippers, there is no cost to the public purse if CAMC chooses to use this route again.

4.4.2 Benefits

The WPY truck-rail route has been the traditional means of servicing CAMC traffic. It has also provided service to other resource producers such as Cassiar Asbestos, and United Keno Hill Mines, as well as to Yukon shippers and consignees of general freight. The WPY Rail Division is considered to have a significant heritage value to Yukon, Canada and Alaska due to its role association with the Klondike Gold Rush, the development of Yukon and its equipment and access to various historical and scenic sites. Because of this, the WPY Rail Division is considered by many to be a "world class tourist attraction" and of national value.

As well, the WPY Rail Division can provide greater economies of scale over the long term to the mining industry than can trucking.

The tax revenue generated by the WPY truck-rail route derives mainly from employee personal income tax, fuel tax, property tax, and corporate tax.

This tax revenue is illustrated below.

Table 4.7

WPY TRUCK/RAIL OPTION
ESTIMATED TAX REVENUE IN CANADA

$000,000/yr.

	Trucking	Rail	Total
Expenses:			
payroll			
- existing rail contracts	3.7	3.9*	7.6
- rail labour concessions	3.7	3.2*	6.9
fuel	2.8	0.8	3.6
Tax:			
Personal income tax**			
- existing rail contracts	0.7	0.8	1.5
- rail labour concessions	0.7	0.6	1.3
Fuel tax***	0.6		
Corporate tax****	0.5	0*****	0.5
TOTAL			
- existing rail contracts			2.8
- rail labour concessions			2.6

* Simple estimate assuming wage parity which results in an over estimate of Canadian roll but not other detailed information available assuming all labour associated with CAMC traffic.

** Based on 20% of payroll

*** Based on 9% federal tax plus Yukon tax

**** Based on 40% of net income from trucking ($1.2 million)

***** Assume rail is operating on a break-even basis

Therefore, the lasting net benefit to Canada of CAMC operating on the WPY truck/rail route ranges between $2.6 and $2.8 million per year.

4.5 Summary Cost/Benefits

A summary of the minimum costs and quantifiable benefits to Canada of the three route options for CAMC if the public paid for Highway infrastructure and related costs as CAMC prefers is provided below.

Table 4.8

SUMMARY COSTS AND BENEFITS TO CANADA OF THE THREE ROUTES

$000,000/yr.*

	South Klondike Highway	Haines Highway	WPY Truck/Rail Route
Minimum Cost	2.6	1.2	0.0
Quantifiable Benefit	2.6	2.9	2.6-2.8
Net Benefit	0	1.7	2.6-2.8

* 1983$

Therefore, from the public's viewpoint, the WPY truck/rail option provides the greatest net benefit to Canada.

5.0 RECOMMENDATIONS

5.1 GENERAL

This inquiry has led to several broad conclusions that convey within themselves what we would consider to be policy recommendations. These recommendations are as follows:

5.1.1 There presently is no urgent transportation "problem" facing Yukon in terms of the availability of adequate infrastructure, facilities and carriers to handle foreseeable volumes of bulk and general freight.

5.1.2 There presently is no urgent transportation "problem" facing Yukon in terms of the availability of adequate infrastructure, facilities and carriers to handle foreseeable volumes of tourists.

5.1.3 The major problems facing Yukon, at this time and for the foreseeable future, in the field of transportation and in its role in economic development are:

a) encouraging corporate bodies that do business in Yukon to lay aside corporate personality differences and to come to fair, mutually agreeable and beneficial business arrangements, making best use of available transportation infrastructure and facilities; and

b) encouraging those same corporate bodies to temper their expectations of Government to directly or indirectly subsidize their ventures with public funds without first demonstrating, with hard facts, that their propositions are truly in the public interest within the meaning of the National Transportation Policy which states in part:

> *"It is hereby declared that an economic, efficient and adequate transportation system making the best use of all available modes of transport at the lowest total cost is essential to protect the interests of the users of transportation and to maintain the economic well-being and growth of Canada, and that these objectives are most likely to be achieved when all modes of transport are able to compete under conditions ensuring that having due regard to national policy and to legal and constitutional requirements:*
>
> *a) regulation of all modes of transport will not be of such a nature as to restrict the ability of any mode of transport to compete freely with any other modes of transport;*
>
> *b) each mode of transport, so far as practicable, bears a fair porportion of the real costs*

of the resources, facilities and services provided that mode of transport at public expense;

c) each mode of transport, so far as practicable, receives compensation for the resources, facilities and services that it is required to provide as an imposed public duty;..."

5.1.4 Any decisions made by Yukon and/or Federal Government in respect of Yukon transportation requirements in the short, medium and long term should be made in accord with the above-stated policy.

5.2 WITH RESPECT TO THE WPY RAILWAY

With respect to the WPY Railway, we recommend that:

5.2.1 The Yukon and Federal Government (Government) should jointly compensate the White Pass and Yukon Corporation (WPY) for independently audited, unavoidable expenses incurred by WPY as a result of maintaining the WPY Railway facilities, located in Canada, in a complete shutdown state. The compensation package should take the form of an agreement between WPY and Government valid from, or retroactive from, June 1, 1984, until the Cyprus Anvil Mining Corp. Ltd. (CAMC) resumes shipments from/to its mine at Faro, Yukon, or until June 1, 1986, whichever occurs first. This compensation package should be treated as compensation for an imposed public duty on WPY for not applying for abandonment within the above-prescribed time periods. In addition, compensation should only be for: a) adequate watchman security of railway operating property and assests in Canada; b) railway-related material, services, rentals, fuel and utilities consumed in Canada; c) debt costs on inter-corporate debt existing on June 1, 1984, related to or fairly allocated to railway operating property and assets in Canada; d) Canadian property tax; and e) insurance on railway operating property and assets in Canada.

5.2.2 Government should jointly encourage the State of Alaska and U.S. Federal Authorities to compensate WPY for the expenses, referred to in item 5.2.1 above, that are incurred in the State of Alaska and that are otherwise as identified in item 5.2.1 above.

5.2.3 When or if CAMC resumes shipments from/to its mine at Faro, Yukon, and if it elects not to utilize the WPY railway for its traffic, WPY should be permitted to abandon its railway and do with the remaining property and assets, as it sees fit.

5.2.4 In the event WPY effectively abandons any or all properties and assets in the State of Alaska essential to the operation of the railway, the compensation package referred to in item 5.2.1 should immediately cease and all debts due to Government by WPY railway should be immediately paid by WPY.

5.2.5 Government should neither now, nor in the future, subsidize the operation of the WPY railway, nor provide it capital monies directly or

indirectly, except as otherwise stated above or as provided for in existing Federal legislation. WPY should finance its own capital projects based on the feasibilty and economic viability of same, considering expected revenues and related operational cost reductions.

5.3 WITH RESPECT TO THE SOUTH KLONDIKE HIGHWAY

With respect to the South Klondike Highway, we recommend that:

5.3.1 If CAMC undertakes to come to a mutually acceptable agreement with WPY to utilize the WPY railway when it resumes shipments from/to its mine at Faro, Yukon, then there is no need for Government to commit any presently unscheduled public funds for the reconstruction of the South Klondike Highway, or for winter snow removal and incremental maintenance of same or otherwise expend funds on the South Klondike Highway except to maintain the efficient and safe use of the Highway in the manner for which it was and is still intended.

5.3.2 If CAMC decides to use the Haines Highway for trucking its traffic, under existing or revised restrictions, then there is no need for Government to commit any presently unscheduled public funds to the South Klondike Highway except to maintain the efficient and safe use of the South Klondike Highway in the manner for which it was and is still intended.

5.3.3 If CAMC decides neither to use the WPY railway nor the Haines Highway for its traffic, and formally seeks permission from Yukon, B.C. and Alaska to utilize the South Klondike Highway, then Yukon, B.C. and perhaps the Federal Government will have to make certain very difficult decisions. Based on the evidence before us in this inquiry we cannot find any short or long term economic, social or policy reasons to support a decision to open the South Klondike Highway to heavy outbound, year-round trucking, considering the risks involved. Therefore, heavy outbound year-round trucking should not be permitted on the South Klondike Highway.

5.3.4 Our opinion that Government should not open the South Klondike Highway to heavy outbound trucks is largely based on cost estimates, not actual contractual rates and charges. Contractual rates and charges have yet to be tendered by the competing carriers - including WPY. We also realize that Government decisions related to this matter will be made from a political perspective as well as in consideration of the facts contained herein. Therefore, although we do not recommend the opening of the South Klondike Highway to heavy outbound trucking, the following steps should be taken by Government in deliberating over the question as to whether or not to increase the gross vehicle weight restrictions on the South Klondike Highway, solely for political reasons.

1) Prior to Yukon and B.C. even contemplating action to increase the existing gross vehicle weight restrictions on the Canadian portion of the South Klondike Highway, CAMC should be obliged to provide Yukon, B.C. and the Federal Government with copies of signed agreements for the purchase and sale of its concentrate along with the agreements in principle and tendered rate quotations between CAMC and all carriers, including WPY, who

have tendered rates for the transport of CAMC traffic to/from Faro, from/to vessel at Skagway, including terminalling and shiploading/offloading charges via the WPY railway and via the South Klondike Highway. As well, CAMC should also be obliged to provide copies of any agreements in principle with the State of Alaska with respect to the use of its portion of the highway and the cost sharing thereof.

2) Along with the information gained from item 5.3.4 1) above, and with the detailed engineering cost estimates of the Yukon Department of Highways and Transport as well as Public Works Canada, with respect to reconstructing and maintaining the South Klondike Highway in Canada, other than for currently scheduled and funded programs, Government should verify our conclusions and recommendations as to whether there is economic merit in permitting CAMC to truck on the South Klondike Highway by using the actual tendered rates and charges provided by CAMC rather than by using hypothetical transportation cost estimates. We firmly believe that such an analysis will confirm our conclusions and support our recommendation that the South Klondike Highway should not be open to heavy outbound trucking.

3) Irrespective of the results of item 5.3.4 2) above, if and only if Yukon and B.C. decide to raise the existing gross vehicle weight restrictions on the South Klondike Highway in Canada, Government should enter into an agreement with CAMC concerning the capital and operating costs of the South Klondike Highway that would be incurred due to CAMC trucking. Government should negotiate with CAMC for the payment of:

   a) the capital and the debt cost of the capital necessary to reconstruct the South Klondike Highway to permit the safe passage of private vehicles and CAMC concentrate trucks. In this respect, we recommend that, at minimum, CAMC should pay for the effective debt cost (e.g. at bond rate) of the necessary reconstruction program calculated on the cumulative capital investment made on an annual basis over a period of time not less than ten (10) years regardless of whether CAMC chooses at a later date not to use the South Klondike Highway.

   b) snow removal in winter and winter maintenance costs. As these would not be incurred but for CAMC, we recommend that CAMC should pay the full annual amount for ten (10) years.

   c) incremental maintenance costs of the Canadian portion of the road due to the presence of CAMC trucks. As these would not be incurred but for CAMC, we recommend that CAMC should pay the full annual amount for ten (10) years.

d) any other costs incurred on the South Klondike Highway due solely to CAMC trucking. We recommend these should be paid by CAMC for ten (10) years.

It should be noted here that if, as CAMC claims, a savings of $10 to $17 million per year would accrue to it from the use of the South Klondike Highway, the above compensation charges would surely not be onerous.

4) Within the aforesaid ten (10) year period, Government should review the agreement with CAMC every two (2) years in respect of user charges levied against CAMC to properly reflect a fair sharing of the costs of using the infrastructure and maintaining it with other outbound bulk trucking operations. An apportionment of those costs should then be levied against those other bulk truckers for the remaining part of the aforementioned ten (10) year period. Truckers of inbound general freight should not be so charged as the road was intended originally to accommodate such traffic.

5.3.5 If the Government decides to raise the gross vehicle weight restrictions in accord with item 5.3.4, until such time as the appropriate reconstruction of the road is completed, CAMC trucks should be restricted from travelling on the portion of the road from Whitehorse to the U.S. border between the hours of 10:00 and 20:00 during the peak tourist season of June, July and August.

5.4 WITH RESPECT TO THE HAINES HIGHWAY

With respect to the Haines Highway we recommend that:

5.4.1 If CAMC decides to truck from Faro to Haines within existing Yukon and B.C. gross vehicle weight restrictions, CAMC clearly may do so without further delay. However, in that circumstance, Yukon and B.C. should limit that movement from operating between Haines Junction and the U.S. border, between the hours of 10:00 and 20:00 during the peak tourist season of June, July and August until currently scheduled road reconstruction is complete.

5.4.2 If CAMC requests Yukon and B.C. to raise existing gross vehicle weight restrictions to permit more efficient and economic trucking, and if Government agrees, CAMC should be required to compensate Government for the incremental maintenance costs of accommodating CAMC trucks under an agreement over a ten (10) year period. Such trucking should be restricted between the hours of 10:00 and 20:00 during the peak tourist season of June, July and August until currently scheduled road reconstruction is complete. That agreement should be reviewed every two (2) years to ensure a fair user charge in light of other bulk outbound truck traffic that may develop.

5.5 WITH RESPECT TO THE DISPOSITION OF PUBLIC FUNDS

With respect to disposition of public funds:

5.5.1 Apart from the aforementioned "one time" compensation to WPY for unavoidable shutdown expenses in Canada (item 5.2.1), which we recommend, and although we do not recommend expenditure of currently unscheduled public funds on either the South Klondike or Haines Highway necessary to accommodate outbound heavy trucking, any and all presently unscheduled public monies that Government may decide to expend, for political reasons, on either the South Klondike or Haines Highway routes due to the presence of CAMC outbound concentrate trucks should be treated as an operating subsidy to CAMC. If Government decides to subsidize CAMC in this fashion, the subsidy should be paid directly to CAMC on an annual basis. CAMC, then, should use the operating subsidy funds to compensate the Yukon Government for administering the related Highway programs.

5.5.2 We can find no economic, social or policy reasons to warrant the subsidy of the WPY to operate the WPY railway in any limited form (e.g. for summer tourist operation or weekly general freight operations) before or after CAMC resumes shipments. That type of limited operation is simply not efficient or economic. We recommend that Government should not pay operating subsidies to WPY except as are warranted and provided for in existing Federal legislation.

5.5.3 If WPY Railway does operate again with both CAMC and tourist traffic, we recommend that Yukon should work together with WPY to enhance the historic peripheral aspects of the tourist train and to widen the marketing of the train as a tourist attraction to Whitehorse. Much could be learned from the Town of Skagway in this respect.

5.5.4 If circumstances arise that WPY is forced to abandon the WPY Railway, we recommend that Government should consider the merits of acquiring the right-of-way for potential use in the distant future.

Appendix A

Costing of Truck Transport Options

APPENDIX A

COSTING OF TRUCK TRANSPORT OPTIONS

A-1.0 GENERAL

Throughout the inquiry, one of the most contested issues centred around the costing of truck transport options -- that is the operational cost estimation of the actual trucking portion of the total transportation cost from/to Faro, to/from vessel at Skagway.

CAMC presented its initial estimates of trucking costs on the South Klondike and Haines Highways in its first submission to the inquiry in September, 1983 and then revised these estimates in February, 1984 in its second submission. CAMC's estimates were supplied by Trimac Consulting Services (Trimac) of Calgary in accord with specific criteria and assumptions prepared by CAMC and as later modified by CAMC.

We presented our initial estimates of trucking costs in our preliminary report in December, 1983 based on Trimac unit costs and discussions with Trimac with respect to CAMC's imposed assumptions. We subsequently "fine-tuned" these estimates for this final report to Yukon based on new information gained from a number of interested parties as well as information and advice from Trimac who we contracted to verify our final estimates.

This appendix presents the following with respect to trucking on the South Klondike and Haines Highways:

1) CAMC's various estimates and assumptions
2) Our estimates and assumptions
3) Reasons for the difference in our preliminary and final estimates
4) Reasons for the difference in CAMC's and our estimates.

A-2.0 SOUTH KLONDIKE HIGHWAY

2.1 CAMC's Estimates

In its initial submission, CAMC developed a proprietary* trucking cost to Skagway via the South Klondike Highway, based on the following assumptions:

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* "proprietary trucking" means CAMC would own and operate the trucking operation - a hypothetical situation as CAMC informs it does not intend to do this.

i) CAMC would have 100 percent equity and no interest charge on the investment would be assessed as a cost;
ii) no profit would be taken by CAMC;
iii) no shuttle operation to comply with Alaskan g.v.w. restrictions would be required;
iv) equipment depreciation: tractors - 3 years with 20% salvage value; trailers and containers - 8 years with no salvage value;
v) administration expense equals 7 percent of revenue;
vi) driver wages based on $13.25/hr or $0.41/mile (i.e. the Canadian wage);
vii) Government pays for all costs associated with road reconstruction, winter maintenance and incremental maintenance due to CAMC trucks plus costs of customs clearance; and
viii) Yukon and B.C. raise g.v.w. restrictions to 134,500 lbs. for the 7 axle, 70 foot B-train design contemplated by CAMC.

CAMC estimated a for-hire truck rate based on the proprietary trucking cost estimates plus a 20% after tax return on the 100% equity.

In its second submission, CAMC revised its cost estimate of trucking to Skagway. CAMC provided a re-estimate of the for-hire rate after including the cost of a shuttle operation using Canadian drivers and Canadian wages. CAMC arrived at their estimate by scaling down Trimac's estimates of administration expense, insurance expense and profit and interest charges.

Table A-1 summarizes CAMC's trucking cost estimates for the movement of 528,600 tonnes combined ore and backhaul.

2.2 Inquiry Estimates

In our preliminary report, we based our trucking cost estimate on Trimac unit costs, discussions with Trimac on CAMC's initial assumptions and our own evaluation of the situation. The following assumptions were applied:

i) shuttle operation was required due to Alaska's stance on maintaining its current g.v.w. restrictions and that U.S. drivers would be required and paid at U.S. wages;
ii) debt ratio of 80 percent with a 15 percent interest rate;
iii) profit factor at 10 percent of cost;
iv) a return on equity factor of 25 percent;
v) administration expense of 10 percent of cost;
vi) Canadian wage rate - $13.25/hr or $.41/mi.;
vii) U.S. wage rate of $22.05/hr (U.S.) or $28.13/hr. (Canadian); and
viii) equipment depreciation: tractors - 80 percent over 3 years; trailers and containers - 100 percent over 3 years.

Table A-1

CAMC Trucking Cost Estimates
for the South Klondike Highway
($000/yr)**

	1st Submission*		2nd Submission*	
	CAMC Proprietary	For-Hire	CAMC For-Hire	TRIMAC
Driver	$ 5,463.5	$ 5,463.5	$ 5,982	$ 5,982
Tractor	6,827.5	6,827.5	7,147	7,147
Trailer	1,885.8	1,885.8	1,987	1,987
Container	285.1	285.1	291	291
Depreciation	1,418.2	1,418.2	1,617	1,617
Terminal	964.0	964.0	1,270	1,270
Sub Total	$16,884.1	$16,884.1	$18,294	$18,294
Administration	253.0	253.0	271	791
Insurance	387.3	387.3	456	506
Interest	-	-	-	418
Profit	-	854.7	1,189	1,661
Total	$17,484.4	$18,339.1	$20,210	$21,670
% increase over 1st submission For-Hire			10%	18%
Capital ($000)	$ 6,900	$ 6,900	$ 7,564	$ 7,475

* CAMC provided annual trucking cost estimates for a six year period between 1985 and 1990 based on the annual mine production estimates and backhaul requirements excluding CIL products. We averaged these trucking cost estimates since our base case scenario of 474,000 tonnes concentrate and 54,600 tonnes backhaul was determined by averaging CAMC's six year mine production forecast.

** 1983$

Prior to developing the estimates for our final report, we discussed the issue of trucking costs with Trimac and contracted their services to verify our methodology, assumptions and estimates. With respect to our costing, Trimac commented in the following manner. "Overall, we feel that your estimates and methodology are representative for the assumptions that have to be made at this time."

Therefore, the following assumptions were considered in developing our final trucking cost estimates:

i) shuttle operation on U.S. soil using U.S. drivers at U.S. wages;
ii) debt ratio of 80 percent with a 13 percent interest rate;
iii) Canadian wage at $13.25/hr ($.41/mi), burden 21%;
iv) U.S. wage at $19.13/hr (U.S.) or $23.91/hr. (Cdn), burden 30.3%;
v) administration and insurance cost at 10% and 2.3% of revenue, respectively;
vi) profit at 25% return on investment; and
vii) equipment depreciation: tractors - 80 percent over 3 years; trailers and containers - 100 percent over 8 years.

The following further assumptions were considered in developing our cost estimates.

1) Restricted Summer Operations

Until the necessary highway reconstruction to make B-train truck and passenger vehicle traffic safe is completed, we have assumed that heavy truck operations are restricted to 14 hours per day overnight for the three summer months. Trimac had advised CAMC in their initial submission that this may be a necessity. This increases the total number of trips, equipment requirements and all mileage-related costs.

2) Annual Road Bans

According to Yukon Department of Highways and Public Works Canada (PWC), the imposition of road bans during spring breakup is inevitable on the South Klondike Highway and the Haines Highway. PWC reported that road bans can range from 70 percent of legal load up to legal load limits (i.e. no overload permits) depending upon conditions and can generally last 4 weeks depending upon weather. We assumed a 75 percent restriction on load limits.

This increases the total number of trips, equipment requirements and all mileage related costs.

3) Alaskan Axle Load Restrictions

Alaskan g.v.w. restrictions are based on the following formula:

$$\text{g.v.w. limit} = 500 \times \frac{NxL}{N-1} + 12N + 36$$

where N = number of axles
L = wheel base (distance between the centre of the first and last axle on any vehicle configuration

Therefore, given a 7 axle B-train with a 65 foot wheel base and 70 foot overall length, the g.v.w. limit is 98,000 lbs. As a result, CAMC B-trains would be required to be split before running in Alaska. However, the g.v.w. limit for each half of the split B-train is different because the wheel bases are different. For example, the g.v.w. limit of the first trailer with the tractor is 75,000 lbs. since the wheel base is approximately 42.7 feet between the first and fifth axle. The g.v.w. limit of the second trailer and tractor combination is 71,500 lbs. due to the smaller wheel base of 37.2 feet. Since the actual g.v.w. of the split B-train contemplated by CAMC is approximately 73,500 lbs., the second trailer/tractor combination would exceed the allowable g.v.w. by 2,000 lbs. Therefore, a third axle would be required for the second trailer, thereby increasing the allowable g.v.w. to 76,500 lbs.

The addition of a third axle reduces payload capabilities due to the additional weight of the axle (roughly 2,000 lbs.) resulting in an increase in the total number of trips, equipment requirements and all mileage-related costs.

Instead of adding an additional axle, trucks could be lighter loaded to comply with the Alaskan g.v.w. limit but the effect on total cost would be the same in either case since a lighter load by 2,000 lbs. is approximately equal to the weight of adding an additional axle.

4) Customs

We believe that CAMC backhaul tonnage would be required to clear customs and the most logical place to do this would be at the Highway Sufferance Warehouse in Whitehorse. The Warehouse operates only 8 hours per day, 5 days per week, resulting in a delay to trailers and containers handling backhaul which were originally costed on a 24 hours - 7 day basis. Therefore, additional equipment would be required due to the slower turn-around time for trailers and containers handling backhaul. We assumed that 10 hours would be added to the turnaround time for trailers handling backhaul.

Table A-2 summarizes our preliminary and final estimates of trucking costs to/from Faro, from/to Skagway via the South Klondike Highway.

The fine tuned cost estimates of the base case resulted in a reduction of about $3.8 million per year, however, the additional costs of restricted summer operations, road bans, Alaskan axle load restrictions and customs increased those costs by $1.6 million. The net result is that the original estimates in our preliminary report were 9% more than our final estimates.

Table A-2

Inquiry Trucking Cost Estimates
for the South Klondike Highway
$000/yr

	Preliminary Estimates	Final Estimates		
	Base Case	Base Case	Additions*	Total
Driver	7,182.1	6,596.7	271.8	6,868.5
Tractor	7,253.8	7,222.7	319.4	7,542.1
Trailer	2,146.2	2,045.2	113.5	2,158.7
Container	272.8	253.4	10.5	263.9
Depreciation	2,207.0	1,470.1	237.5	1,707.6
Terminal	1,446.7	1,446.7	-	1,446.7
Sub Total	20,508.6	19,034.8	952.7	19,987.5
Administration	2,050.9	846.2	158.0	1,004.2
Insurance	471.7	527.4	36.1	563.5
Interest	907.7	740.6	125.1	865.7
Profit	2,772.1	1,780.3	300.6	2,080.9
Grand Total	$26,711.0	$22,929.3	$1,572.5	$24,500.8
% decrease from Preliminary				9%
Capital ($000)	$ 7,564	$ 7,121.1	$1,202.6	$ 8,323.7

* Additions due to costs of: 1) restricted summer operations
2) road bans
3) Alaskan axle load restrictions
4) customs

2.3 Rationalization of Cost Differences Between Base Cases

It is worthwhile to explain the differences between the various cost components in our base case analysis for our preliminary and final reports.

1) Driver Costs

Driver costs are lower in the final estimate due to the net effect of the readjustment in the U.S. driver wage rate, holiday pay and burden factors.

2) Tractor Costs

Tractor costs are greater in the final estimate due to the net effect of B.C. licensing fees, sales taxes and fuel taxes and the readjustment in the operating factors for repairs and tires in the U.S. to the lower Canadian levels.

3) Trailer Costs

Trailer costs are lower in the final estimate due to the readjustment in the U.S. operating factors for repairs and tires to the lower Canadian factors.

4) Container Costs

Container costs are lower in the final estimate due to the readjustment in U.S. operating factor for repairs to the lower Canadian factor.

5) Depreciation Costs

Depreciation costs are lower because of the longer depreciation life for trailers and containers assumed in the final estimate. It should be noted that any trucking company would require the shipper to purchase the equipment at the depreciated value if mine production curtailed for an unspecified time prematurely.

6) Administration and Terminal Costs

Administration costs are lower since the combined administration and terminal costs should equal 10 percent of revenue.

7) Insurance Costs

These costs are higher in our final estimates since insurance is costed at 2.3 percent of revenue.

8) Interest Costs

Interest costs are lower in the final assessment since the interest rate is assumed to be 13 percent not 15 percent which was used in the preliminary report.

9) Profit

Profit levels in our final estimate are based on a 25 percent return on investment if the contractual arrangements are fully secured with the shipper. In other words, if the trucker is to assume any risk the profit level would be higher.

2.4 The Impact of Additional Operating Considerations

As was explained in the discussion on assumptions, restricted summer operations, road bans, Alaskan axle weight retrictions and customs are factors which were not earlier considered and impact significantly on the costs.

It is worthwhile to illustrate the effect which each factor has on cost. Accordingly, Table A-3 depicts these considerations.

It should be noted here that the profit levels shown for restricted summer operations and customs are a large proportion of the total cost resulting from these additional operating conditions (i.e. 35% and 40%, respectively). Since profit is calculated on the basis of a 25% return on investment, the profit level for these two conditions are high since the additional capital employed required to meet these conditions is a significant proportion of the cost. There is likely some leeway in the profit figure for these two conditions since profit should not only be related to a return on investment but a return on the total cost (i.e. sales revenue) of the operation. Determining profit for each one of these additional operating conditions on the basis of return on investment may result in a significant proportion of total cost for each one of the conditions, but in the total scheme of things, total profit equates to 8.5% of total revenue for the entire truck operation. This is well within the criteria that a 25% return on investment should roughly be equivalent to a 10% return on sales (i.e. total cost).

2.5 Comparison of Trucking Cost Estimates

A summary of the trucking cost estimates provided by CAMC compared to our estimates for trucking to Skagway are shown in Table A-4.

The net difference between CAMC final cost estimates and our final cost estimates for trucking to/from Faro from/to Skagway is about $4.3 million/yr. In other words, our estimates exceed those of CAMC by about 21%.

Table A-3

Cost Impact of Additional Factors
$000/yr

	Restricted Summer Operations	Road Bans	Alaskan Axle Weight Restrictions	Customs	Total
Driver Costs	-	126.7	145.1	-	271.8
Tractor Costs	22.5	138.5	158.4	-	319.4
Trailer Costs	20.6	39.8	45.0	8.1	113.5
Container Costs	-	4.9	5.6	-	10.5
Depreciation Costs	157.1	31.4	32.5	16.5	237.5
Sub Total	200.2	341.3	386.6	24.6	952.7
Administration	53.2	45.3	50.5	8.1	158.0
Insurance	12.3	10.4	11.6	1.9	36.1
Interest	78.2	16.6	16.6	13.7	125.1
Profit	188.1	39.8	39.8	32.9	300.6
Grand Total	$532.0	$453.4	$505.1	$81.2	$1,572.5
Capital	$752.4	$159.2	$159.2	$131.7	$1,202.6

Table A-4

Summary of Trucking Cost Estimates
$000/yr

	CAMC Proprietary	CAMC For-Hire	CAMC For-Hire Re-estimate	Inquiry Preliminary Report	Inquiry Final Report
Driver	$ 5,463.5	$ 5,463.5	$ 5,982	$ 7,182.1	$ 6,868.5
Tractor	6,827.5	6,827.5	7,147	7,253.8	7,542.1
Trailer	1,885.8	1,885.8	1,987	2,146.2	2,158.7
Container	285.1	285.1	291	272.8	263.9
Depreciation	1,418.2	1,418.2	1,617	2,207.0	1,707.6
Sub Total	$15,920.1	$15,920.1	$17,024	$19,061.9	$18,540.8
Administration	1,217.0	1,217.0	1,541	3,497.6	2,450.9
Insurance	387.3	387.3	456	471.7	563.5
Interest	-	-	-	907.7	865.7
Profit	-	1,069.5	1,189	2,772.1	2,080.9
Grand Total	$17,484.4	$18,553.9	$20,210	$26,711.0	$24,500.8
Capital ($000)	$ 6,900	$ 6,900	$ 7,564	$ 7,564	$ 8,323.7

A-3.0 HAINES HIGHWAY

Costing of truck operations on the Haines Highway was done in the same manner as that on the South Klondike Highway which has been described in detail in Section 2.2.

A summary of the trucking costs of this route provided by CAMC compared to our estimates are shown in Table A-5.

Table A-5

Comparison of Trucking Cost Estimates
for Faro-Haines Route
$000/yr

	CAMC Proprietary	CAMC For-Hire	CAMC* For-Hire Re-Estimate	Inquiry Preliminary Report	Inquiry Final Report
Driver	$ 7,819	$ 7,819		$ 8,621.3	$ 8,035.8
Tractor	9,552	9,552		9,753.5	9,503.7
Trailer	2,739	2,739		2,874.4	2,655.5
Container	401	401		370.7	328.4
Depreciation	1,756	1,756		2,606.7	1,863.6
Sub Total	$22,267	$22,267		$24,226.6	$22,387.0
Administration	1,312	1,312		4,014.0	2,919.0
Insurance	535	535		590.5	671.4
Interest	-	-		1,073.0	943.9
Profit	-	1,152		3,437.5	2,269.0
Grand Total	$24,114	$25,266	$26,137	$33,341.6	$29,190.3
Capital	$8,544.2	$8,544.2		$7,873.5	$9,076.5

* CAMC provided only a total cost figure for their re-estimate.

Our estimates to Haines exceed those of CAMC by about $3.1 million/yr. or by 12%.

A-4.0 COMPARISON OF OPERATIONAL CHARACTERISTICS OF TRUCKING ON THE SOUTH KLONDIKE AND HAINES HIGHWAY

As was illustrated in our preliminary report, a comparison of the operational characteristics of trucking was developed for the South Klondike and Haines Highway. This has been revised for this final report as shown below in Table A-6.

Table A-6

Operational Characteristics

1) South Klondike Highway

	Base Case	Additions				Total
		Restricted Summer Operations	Road Bans	Alaskan Axle Restrictions	Customs	
Number of Trips	11,233	-	216	245	-	11,694
Trip time (hrs)	28.25	-	-	-	2.9	31.17
Number of Drivers*	106	-	2	2	-	110
Number of Tractors	46	5	1	1	-	53
Number of Trailers	92	10	2	2	10	116
Number of Containers						
Large ore	55	6	2	2	6	71
Small ore	74	8	2	2	8	94
Fuel	2	-	-	-	-	2
Soda/Lime	4	-	-	-	-	4
Coal	4	-	-	-	-	4
Steel Prod.	2	-	-	-	-	2
Gen'l. Frt.	1	-	-	-	-	1
Capital Costs ($000)						
Tractors	4,094	445	89	89	-	4,717
Trailers	2,024	220	44	44	88	2,420
Containers	1,003	87.4	26.2	26.2	43.7	1,186.5
Total Mileage (000 mi)	8,447.2	-	162.4	184.2	-	8,793.8

*Based on 3000 hours/driver/year

Table A-6 (cont'd)

2) Haines Highway

	Base Case	Additions				Total
		Restricted Summer Operations	Road Bans	Alaskan Axle Restrictions	Customs	
Number of trips	11,233	-	216	245	-	11,694
Trip Time (hrs.)	31.1	-	-	-	2.9	34.0
Number of Drivers	117	-	2	2	-	121
Number of Tractors	51	5	1	1	-	58
Number of Trailers	102	10	2	2	10	126
Number of Containers						
Large ore	61	6	2	2	6	78
Small ore	82	8	2	2	8	102
Backhaul	13	-	-	-	-	13
Capital Costs						
Tractors	4,539	445	89	89	-	5,162
Trailers	2,244	220	44	44	88	2,640
Containers	1,091	87.4	26.2	26.2	43.7	1,274.5
Total Mileage	10,514.1	-	162.4	184.2	-	10,860.7

A-5.0 FARO-UTAH JUNCTION

The truck portion of the WPY truck/rail operation is costed on the same basis as the Faro-Skagway route with the following exceptions. Restricted summer operations, Alaskan axle weight restrictions and customs are not applicable to this route. The effect of road bans have, however, been considered in the costs.

Table A-7 illustrates the costs of this route.

Table A-7

Faro-Utah Junction

$000/yr

	Preliminary Report	Final Report		
	Base Case	Base Case	Road Bans	Total
Driver	$ 3,927	$ 3,745	$ 72	$ 3,817
Tractor	4,602	4,495	93	4,588
Trailer	1,343	1,310	27	1,337
Container	168	164	3	167
Depreciation	1,306	932	31	963
Terminal	964	964	-	964
Sub Total	12,310	11,610	226	11,836
Administration	1,231	441	32	473
Insurance	283	323	7	330
Interest	530	492	17	509
Profit	1,656	1,183	40	1,223
Grand Total	$16,010	$14,049	$321	$14,372
Capital ($000)	$ 4,417	$ 4,734	$159	$ 4,893

The reasons for the difference in the various cost elements in our two reports for this route are the same as those for the Faro-Skagway route which were discussed earlier.

The operational characteristics for this route, are shown in Table 8.

Table A-8

Operational Characteristics of
Faro-Utah Junction Route

	Base Case	Road Bans	Total
Number of Trips	11,233	216	11,449
Trip Time (hrs)	16.3	-	16.3
Number of Drivers	61	2	63
Number of Tractors	27	1	28
Number of Trailers	54	2	56
Number of Containers			
Large Ore	65	2	67
Small Ore	86	2	88
Backhaul	13	-	13
Capital Costs ($000)			
Tractors	2,403	89	2,492
Trailers	1,188	44	1,232
Containers	1,143	26.2	1,169.2
Total Mileage (000 mi)	5,459.2	162.4	5,621.6

6.0 COSTING CRITERIA

The following criteria has been used throughout for truck costing on all of the various routes.

1. Tonnage:

forehaul	474,000 tonnes
backhaul	54,600 tonnes

2. Shuttle Operations:

i) at Fraser, B.C. on the Faro-Skagway route
ii) at Canada/U.S. border on the Faro-Haines route

3. Average Winter/Summer Driving Speeds:

i) Faro-Skagway

Faro-Whitehorse	32 mph
Whitehorse-Fraser	25 mph
Fraser-Skagway	23 mph

ii) Faro-Haines 32 mph

4. Load/Unload Times

i)	ore loading at Faro	1/2 hour
ii)	Shuttle Handling	3/4 hour
iii)	Unload Ore at Destination	1/4 hour
iv)	Load Backhaul	1/4 hour
v)	Unload Backhaul at Faro	1/4 hour

5. Backhaul Tonnage:

Fuel	9,500 tonnes
Soda/Lime	14,300 tonnes
Coal	20,000 tonnes
Steel Products	8,200 tonnes
General Freight	2,600 tonnes
	54,600 tonnes

6. Backhaul Container Capacities:

Fuel	11.3 tonnes
Soda/Lime	15 tonnes
Coal	20 tonnes
Steel Products	20 tonnes
General Freight	15 tonnes

7. Component Unit Costs:

i) Driver Costs:

	CBRT	Teamster Local 959
Wages	$13.25/hr (.41/mi)	$19.13/hr (US)
Overtime	Time & Half	-
Holiday Pay	4%	7.6%
Subsistence	2c/mi	-
Burden	21%	30.3%

ii) Tractor Costs:

Fuel Price	(Yukon)	1.73/gallon + .23/gallon tax
	(B.C.)	1.73/gallon + .36/gallon tax
	(Alaska)	1.73/gallon + .08/gallon tax

Fuel Consumption	3.9 miles/gallon
Repairs	$.25/mile
Tires	$.06/mile
Licenses (Yukon)	$1,960
(B.C.)	$2,364
(Alaska)	$600/tractor operating in U.S. + 6c/U.S. mile
B.C. Social Service Tax (spread over 5 years)	6% x Capital Cost x Proportion of BC miles
B.C. Material Repair Tax	6% x Material Cost of Repairs x Proportion of BC miles

iii) Trailer Costs:

Repairs	$.13/mile
Tires	$.09/mile
Licenses	$20/year in each jurisdiction
Cleaning	$2000/trailer/year

iv) Container Costs:

Repairs	$.03/mile

v) Capital Costs:

Tractors	$89,000
Trailers	$44,000/set (2)
Containers	
Large Ore	$ 8,740
Small Ore	4,370
Fuel	16,000
Soda/Lime	25,000
Coal	11,760
Steel Products	5,000
General Freight	10,000

iv) Rate of Depreciation:

Tractors	80 percent over 3 years
Trails and Containers	100% over 8 years

vii) Terminal Costs:

a) Equipment Repair & Maintenance 16 employees @ $40,187/employee

b) U.S. Shuttle Operations 6 employees at $53,582/employee

c) Occupancy Cost of 50 percent of a) and b) is added

Overhead Costs:

Administration	10% of revenue (includes terminal costs)
Insurance	2.3% of revenue
Interest	13% rate on 80% debt
Profit	25% ROI